

2011/2012

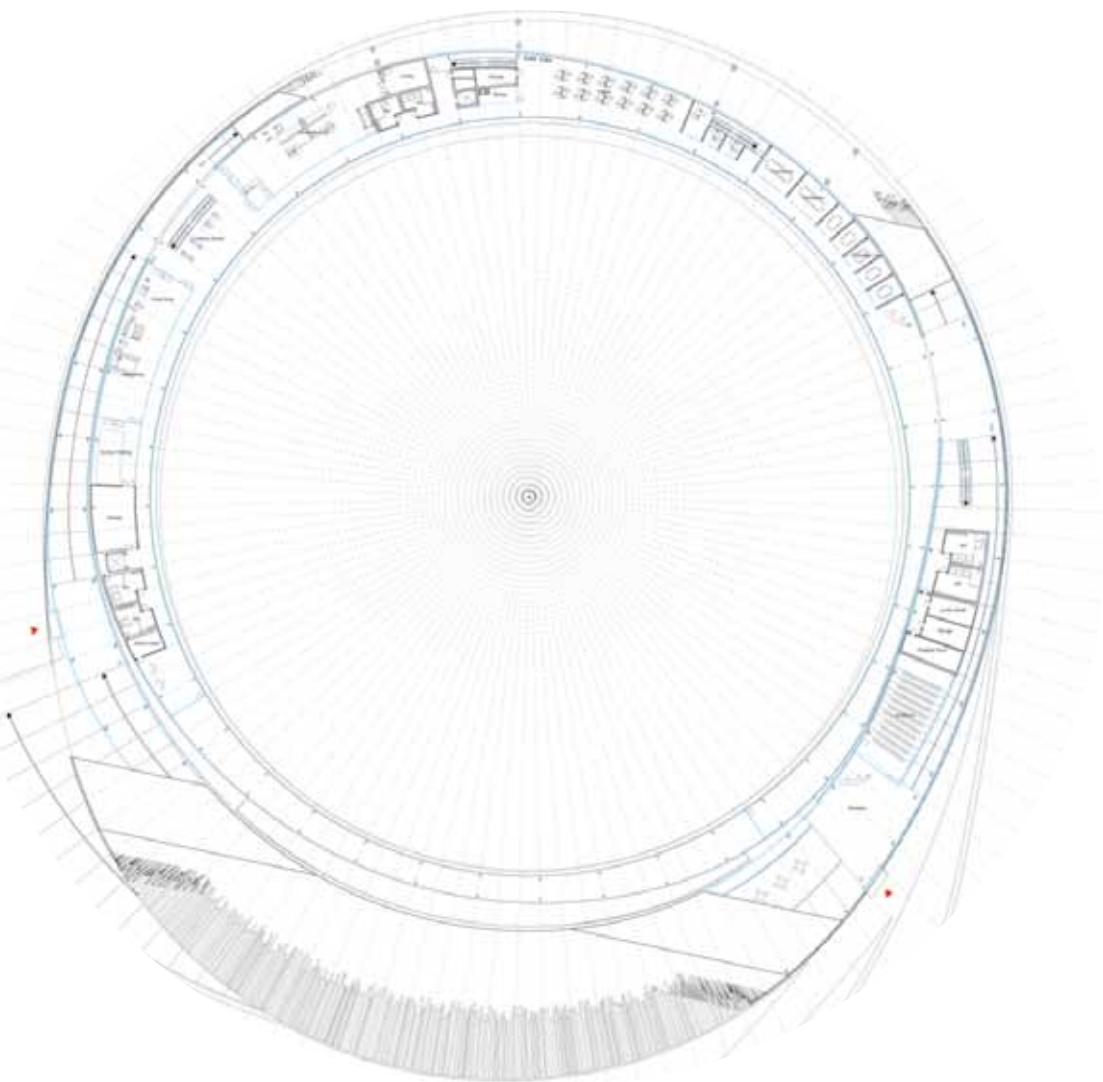


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USC Architecture

2011/2012

INDEX



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USC Architecture

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EDITOR'S PREFACE

On Editing

In assembling this year's collection of student work, the INDEX editors saw many architectural ideas that were both novel and fascinating. As in past years' IDWRK publications, hundreds of students from the undergraduate and graduate programs submitted design projects and research. Despite its small size, INDEX aims to convey the School's ongoing changes as well as sample the energy of a year of activity. Smoothing this torrent of projects to resemble a single set of compatible aims is of course both undesirable and impossible. INDEX instead implies more than it can include, offering a necessarily incomplete sample of the School's most experimental projects. Working with this often unruly collection of ideas and directions is perhaps the most rewarding aspect of editing student work, a quality of restlessness and innovation we hope this book conveys.

Laurel Broughton
Undergraduate Editor

Marcos Sánchez
Graduate Editor

DEANS NOTE

Energized by the newborn mission of “Real-Time Design,” USC School of Architecture programs are increasingly integrated to address global issues by creating an energetic, engaging academic community and relevant, risk-taking program.

The School’s participation in the Solar Decathlon centers on learner-centric experiences aimed at design practice that congregates design research and design entrepreneurship. Embedded in the project is a set of values that we as a school of architecture believe in, that go beyond the provision of affordable and energy-efficient housing. The competition asks us to think about community, and society, and also culture, it does everything that we as an institution – the entire university – collectively strive for.

Design research explores the possibilities of bringing different disciplines together without losing the larger goal of spatial organization and humanistic aspiration. With contexts as far reaching as the moon, Neil Leach and Anders Carlson’s research explored how building technologies could be developed and deployed to adapt to both the known and unknown complexities and realities presented by the environment of the moon.

Design entrepreneurship aims to build new platforms and modes for operation. Examples include Doris Sung’s studio investigating the extremities of architecture where variables are changing hourly, daily, seasonally and annually and Alvin Huang’s studio seeking systemic methods of exploring associative geometric relationships to develop techniques for “informing form”.

All of these are brought back to the unique urban situation of Los Angeles whose landscape and urbanism are fused, and history and modernity are one. Larry Scarpa’s studio examined the unique historical and contemporary relationships between the LA River and its surrounding communities, developing projects asking how buildings and the landscape can be conceived as catalysts for the development of node-based community design.

Dean Qingyun Ma, AIA



UNDERGRADUATE CORE STUDIOS

IF THERE IS A REAL GOAL IN ALL OF THIS, IT MIGHT BE CALLED RELEVANCE.

UNDERGRADUATE CHAIR INTRODUCTION

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In last spring's IDWRK, the undergraduate program was described as engendering adaptability and dynamism through exposure to a wide array of tools and resources. Focus on the digital, sustainability, and a sensitive engagement with community were noted as significant drivers of the curriculum. These efforts continue. If there is a real goal in all of this, it might be called relevance. Establishing a strong educational foundation, with integration, performance, and community at its core, is a solid step in that direction. This foundation, however, necessitates development of a cultural awareness that plays into how we understand our cities and how we interact with them (as well as with each other). We sought to broaden our discourse to address this, and it shows.

The undergraduate studio work of 2011-12 was compelling and intelligent, and showed signs of real relevance. Curricular advancements and evolution continued, and the emphasis on digital processes, performance, and design-build is now clearly visible. Studio coordinators Anthony Guida, Victor Jones, Eric Nulman, Liz Falletta, Eric Haas, Mario Cipresso, Andrew Liang, and Doris Sung led their teams with steady, yet relaxed, hands, allowing all faculty to take advantage of individual research strengths in nurturing their students. For the first time, every single year of the 5-year BArch design studio curriculum mounted exhibitions. A standout was the museum-worthy mid-semester work of Associate Professor of Practice Lee Olvera's Arch 502 degree project studio, in which each student designed and fabricated a "Mao jacket" out of materials as diverse as glue dots and rubber bands. Innovatively and meticulously detailed and crafted, beautiful as works of art, and utterly drool-inducing objects of desire, the results of this foray into a parallel design discipline yielded incredible inspiration and delight. As a particularly potent example of the transformative power of design-build, this exercise marked an important milestone in the school's design studio curriculum - and addressed squarely the role of high art and culture in the development of an architectural voice. It was one of a group of compelling degree project and topic studios that explored interactivity and robotics, transportation and urban networks, vertical urban farming, and dystopic as well as utopian housing, among other subjects.

Outside the required design studio sequence, successes of the previous academic year were reconstituted, to equal but different effect. Achim Menges and Thomas Auer led our second annual one-week spring Top Fuel workshop during which three groups of students (both undergraduate and graduate) designed and built full-scale pneumatic structures. We were happy to host as additional participants two thesis students from SCI-Arc. Blue Tape took place at downtown's California Manufacturing Center and was more inclusive and interactive than ever. Three graduating undergraduate students - Evan Shieh, Samantha Ng, and Bryn Garrett, blew away the competition from eight other area schools to win the Julius Shulman Emerging Talent Award, the result of a two-day charrette held at Gensler's new downtown offices. And Alexandre Salice (BArch 2011) and Anirudh Dhawat (MARCH 2011) likewise fared well in the AIA/LA's annual 2x8 scholarship competition that included representatives from ten area schools - with their final academic projects each winning a third prize.

What, really, does all of this tell us? Only that design excellence, bolstered by the depth of our programs, a strong and motivated faculty, and the will to make an impact, is spreading throughout our halls. It is a long and challenging road to true relevance, but we are embracing the journey.

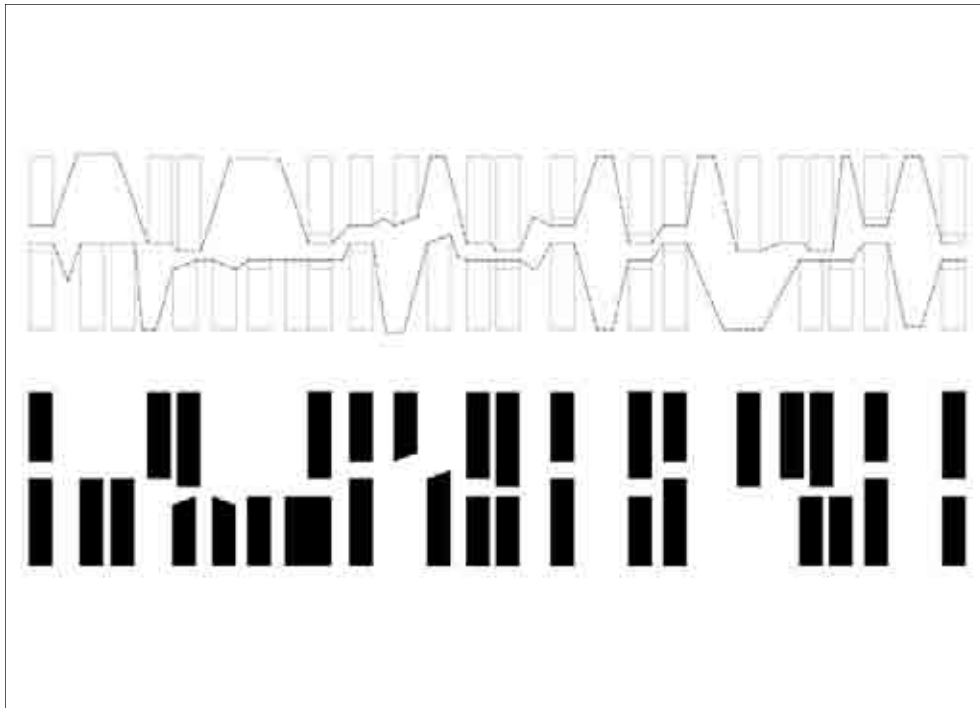
Alice Kimm
Director of Undergraduate Studies

ARCH 102A. SPATIAL LITERACY

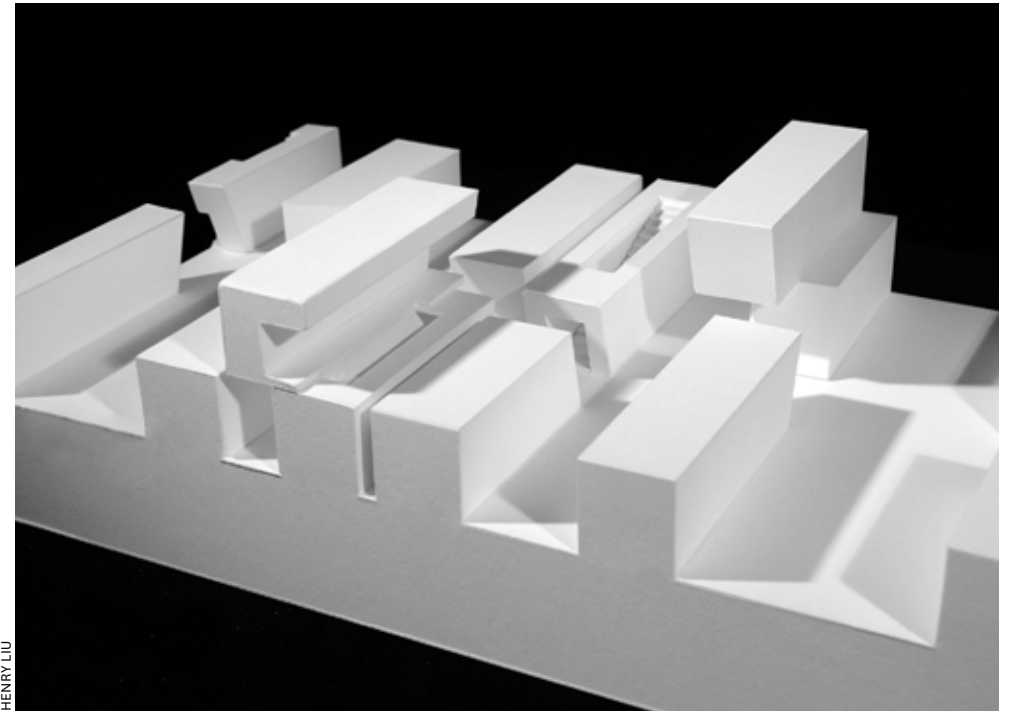
COORDINATOR: Anthony Guida. **INSTRUCTORS:** Kara Bartelt, Lauren Matchison, Colin Sieburgh, Carlo Aiello, Anna Neimark, Daniel Carper, Victoria Coaloa, Valery Augustin

The first semester design studio was an introduction to the discipline of spatial design practice through geometry and technique. Four projects of varied scale and increasing complexity addressed fundamental lessons of scale, proportion, formal organization, spatial definition, sequence and movement. Prescribed themes and processes were intended to focus on conceptual understanding, advance technical skills and an awareness of spatial conventions, as well as to stimulate critical thinking and creativity in interpreting limits.

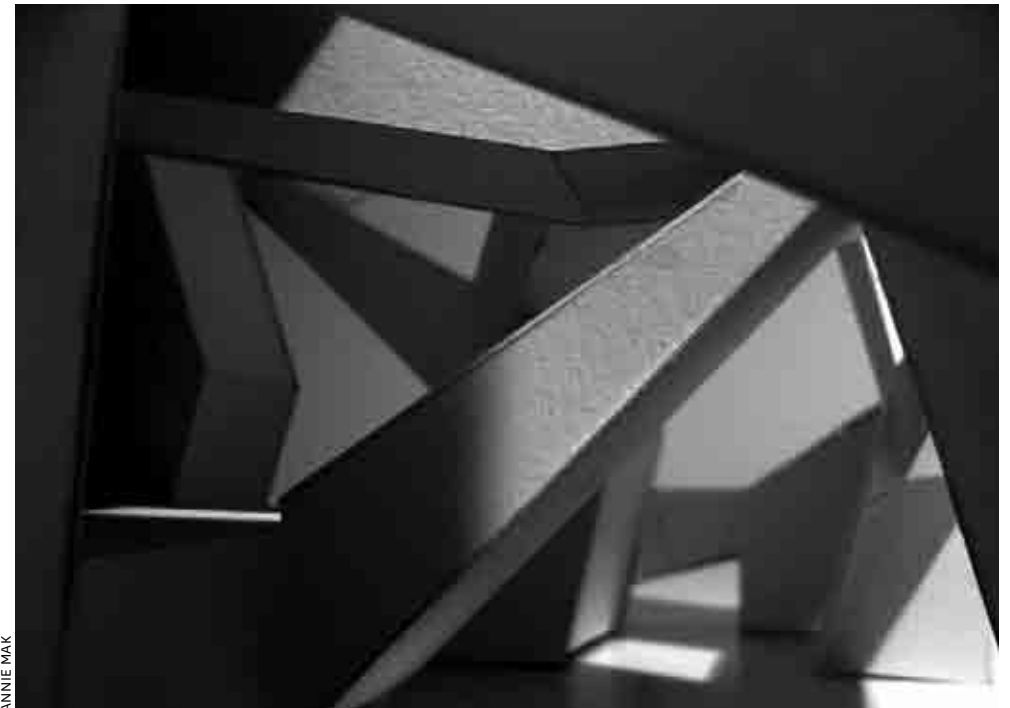
In each of the four design problems, diagrams and digitally produced orthographic drawings were the primary instruments of design inquiry and the iterative development of formal solutions. Physical models supported visualization and the testing of ideas in three dimensions. Refined graphic and verbal presentations were developed to successfully communicate design intent.



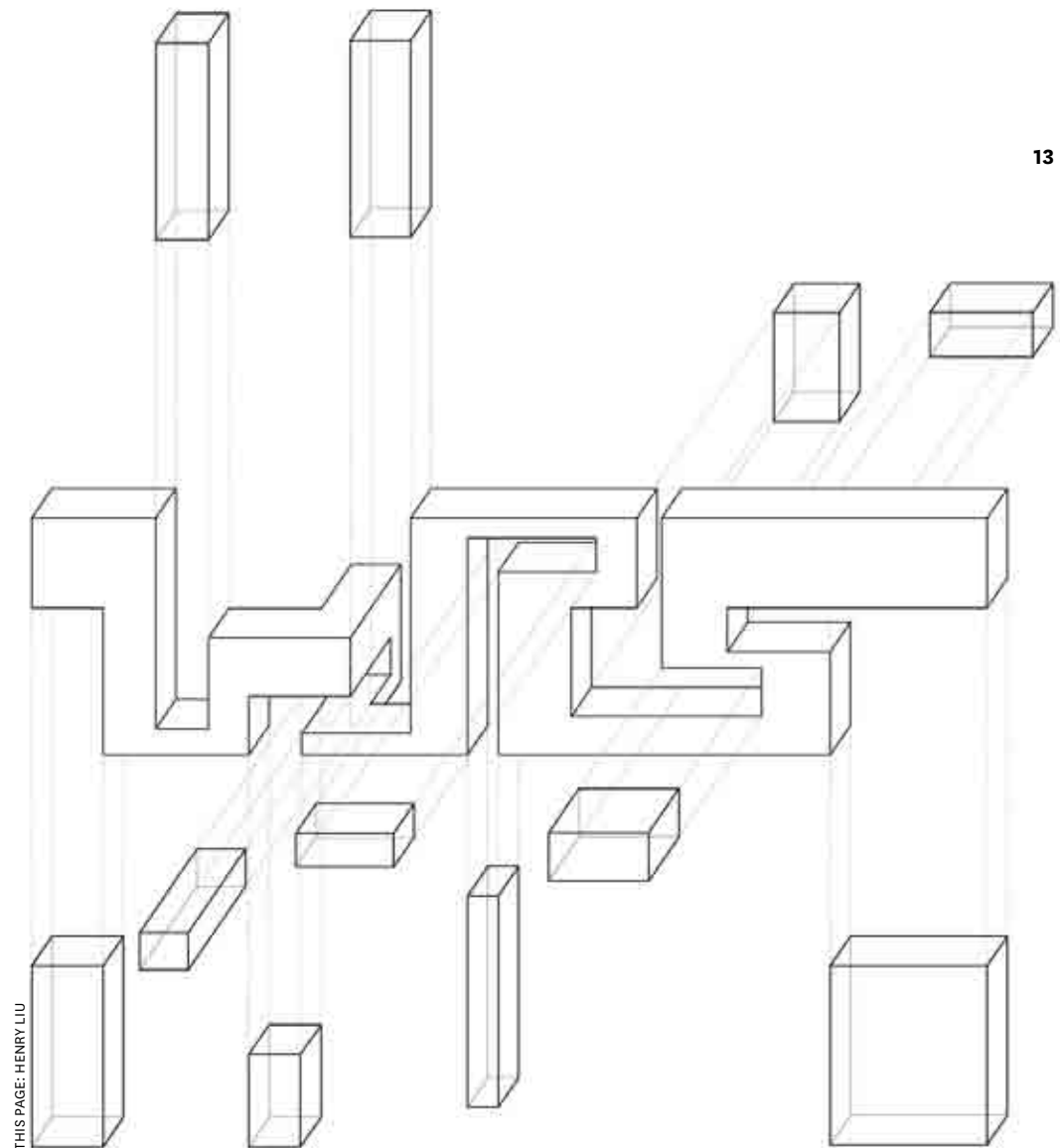
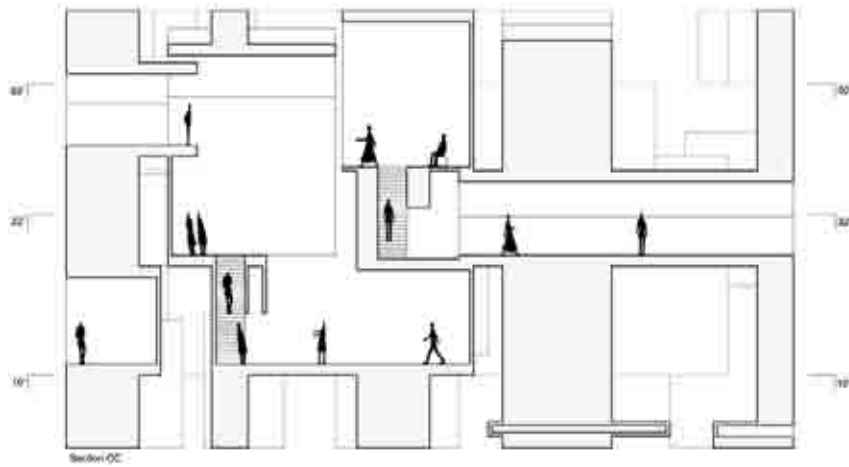
HENRY LIU



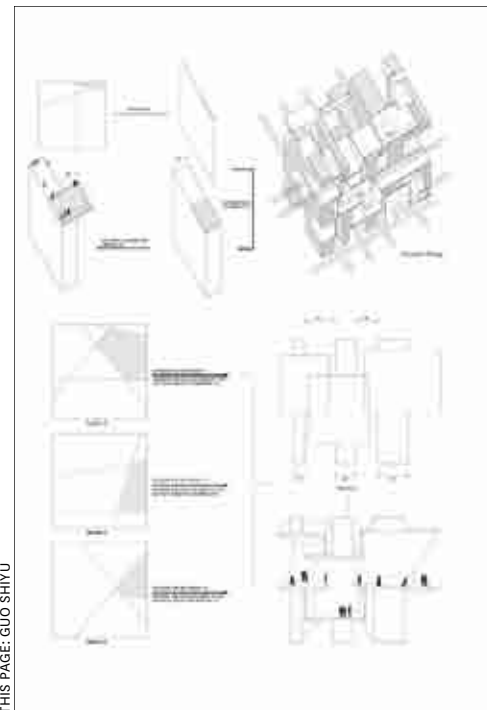
HENRY LIU



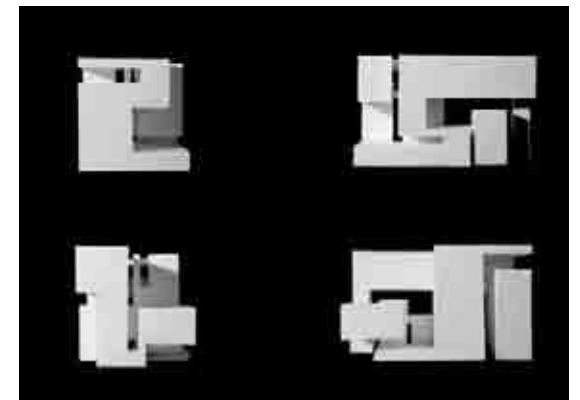
ANNIE MAK



THIS PAGE: HENRY LIU



THIS PAGE: GUO SHIYU



ARCH 102B. THINKING + MAKING

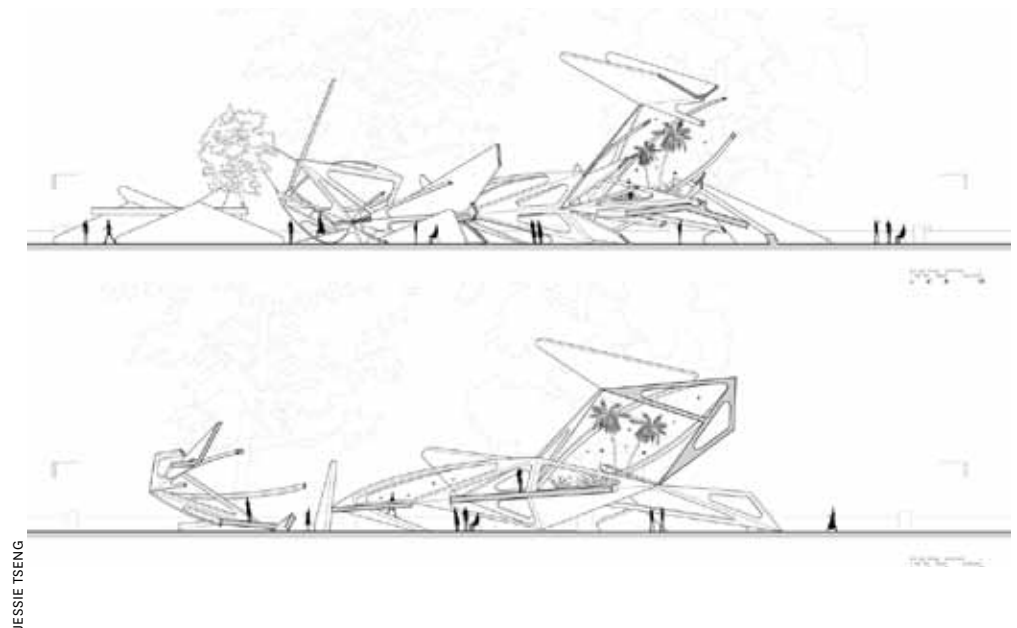
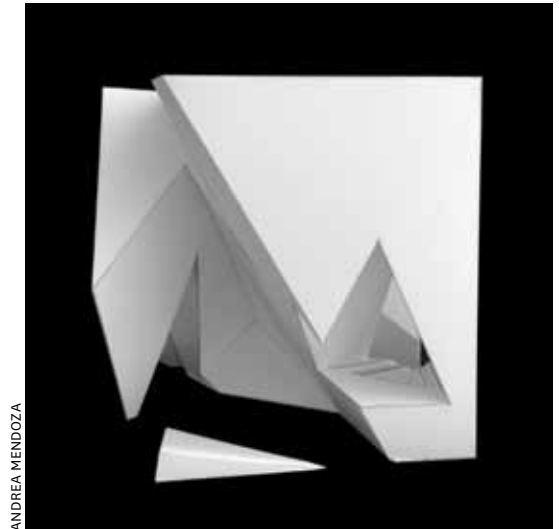
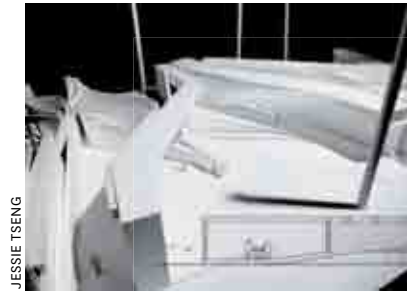
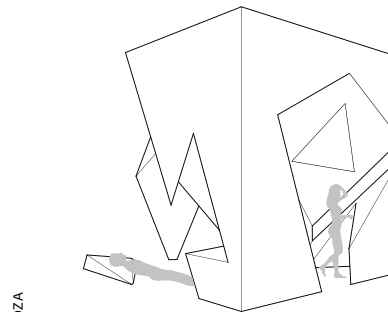
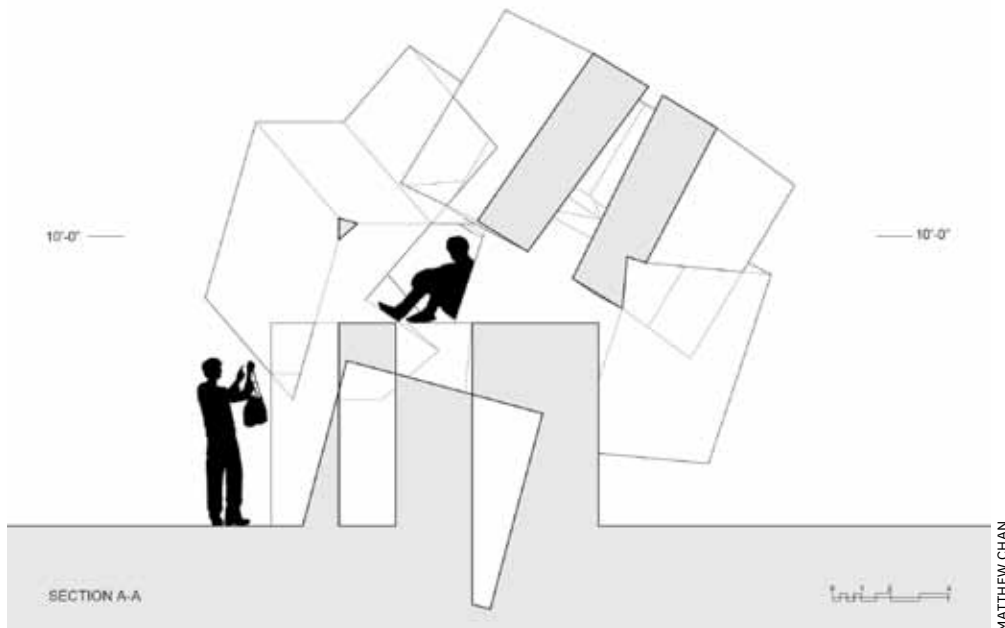
COORDINATOR: Anthony Guida. **INSTRUCTORS:** Kara Bartelt, Daniel Carper, Victoria Coaloa, Sandra Hutchings, Jason Kerwin, Colin Sieburgh, Carrie Smith, Sandra Yum

The second semester design studio is an introduction to generative form making in architecture.

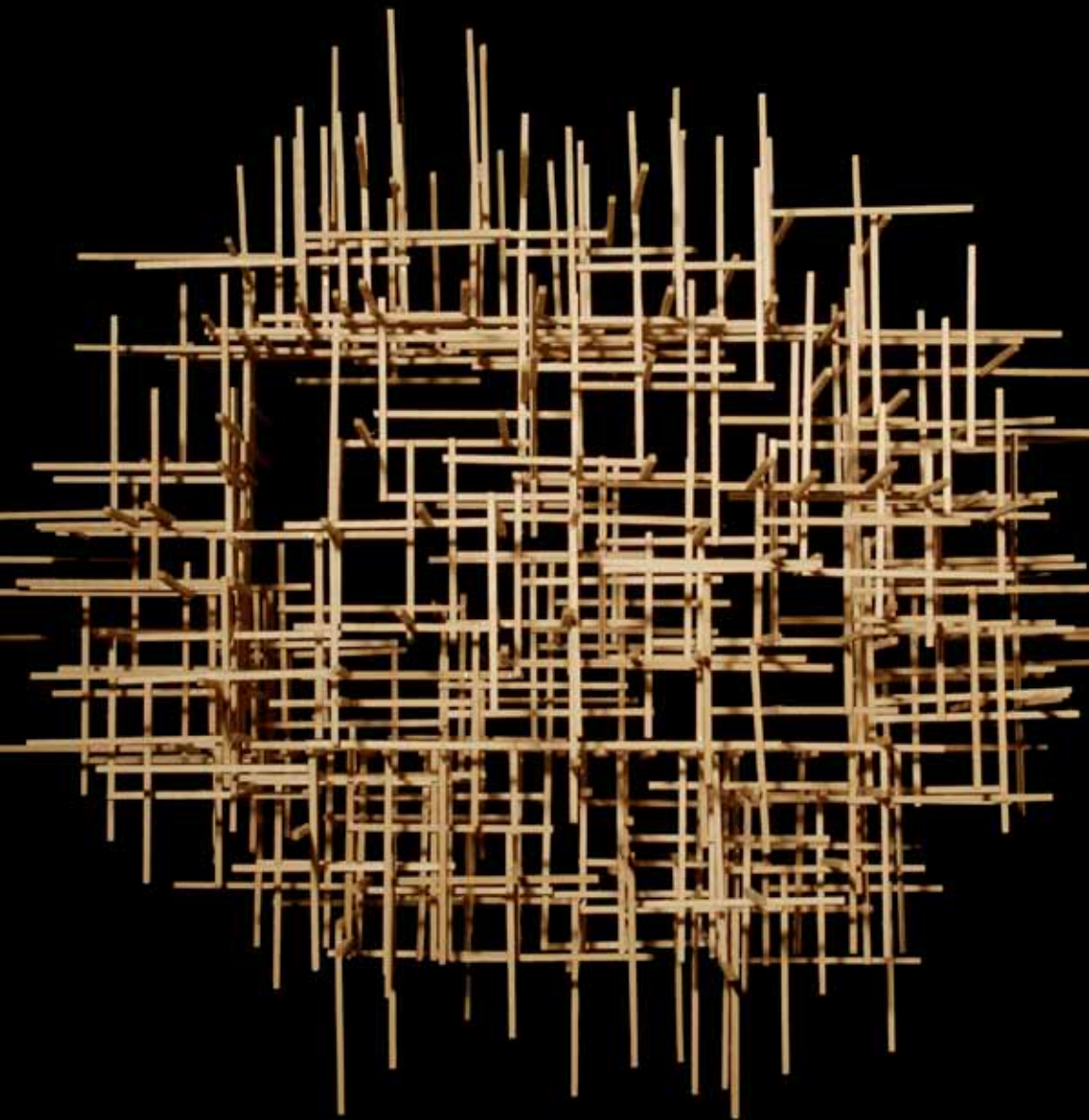
The first three projects introduced methodologies associated with three distinct, but interrelated modes of formal expression (solids, surfaces and lines). In each project, students generated abstract systematic formal explorations that were spatial, structural, organizational and capable of variation (in scale, density, configuration, etc.). These explorations were the basis of subsequent design proposals that addressed fundamental issues of program/use and site/context (a bathing pavilion, pop-up fashion runway and lifeguard tower).

The fourth and final project required students to synthesize all three modes of form making (solid, surface and line) in developing a proposal for a butterfly pavilion/habitat on a site in Exposition Park.

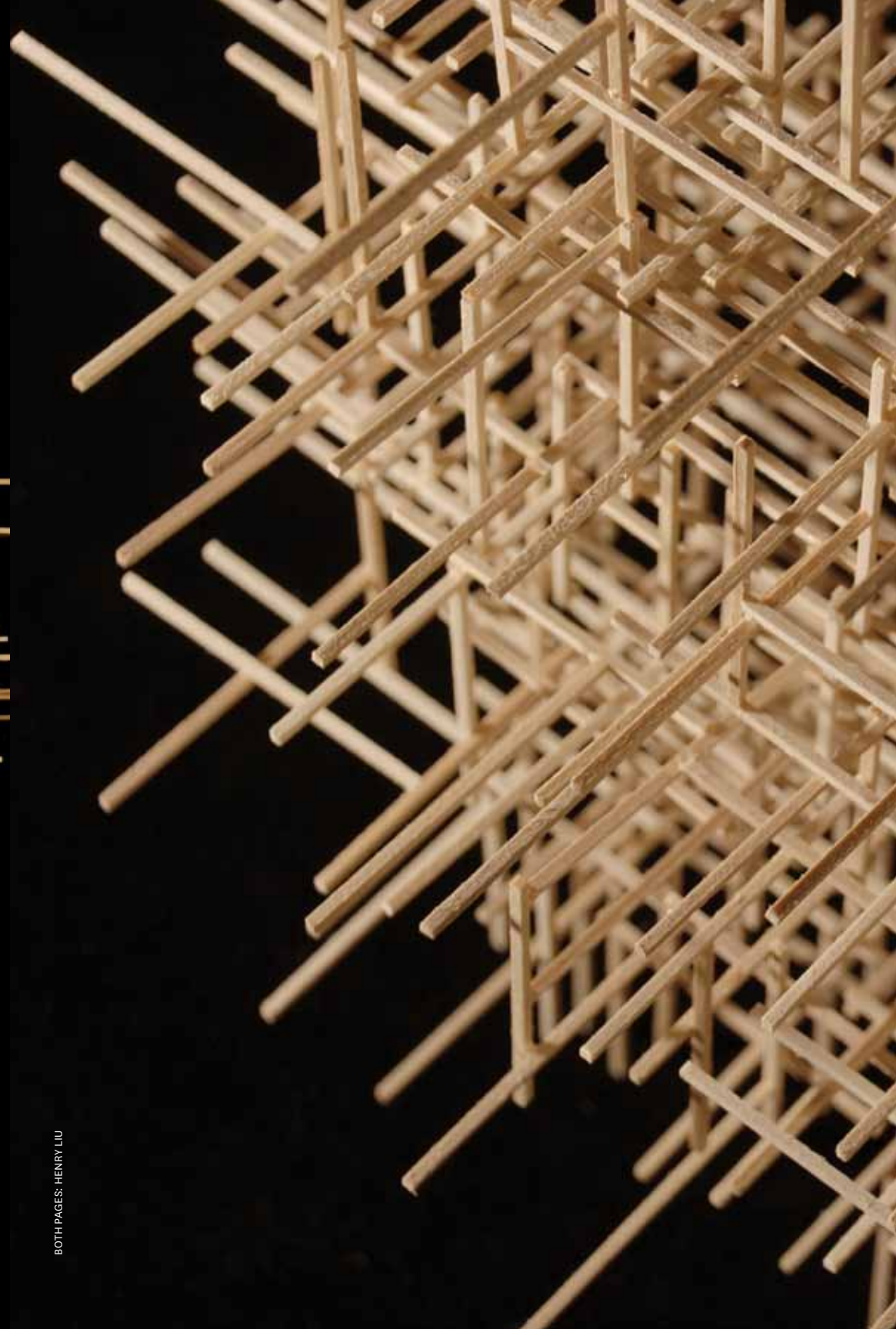
The introduction of 3D modeling in Rhino and digital fabrication was closely integrated with all design exercises. Digital models were used in tandem with analog models, drawings and diagrams as the primary instruments of design inquiry and development. The study of relevant design precedent was a component of each project.



ARCH 102B.



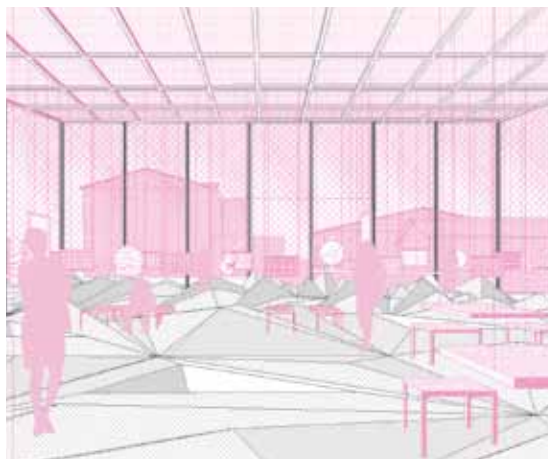
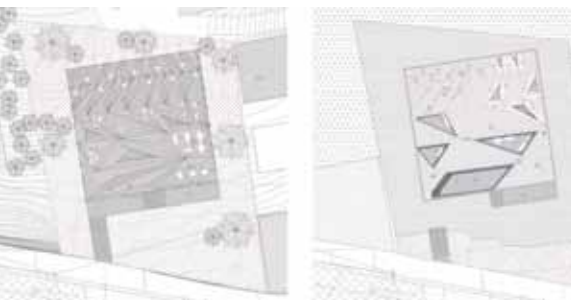
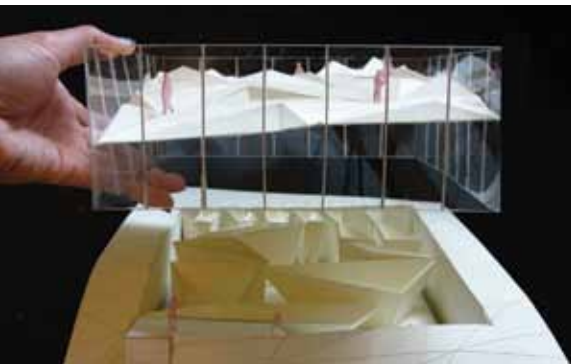
BOTH PAGES: HENRY LIU



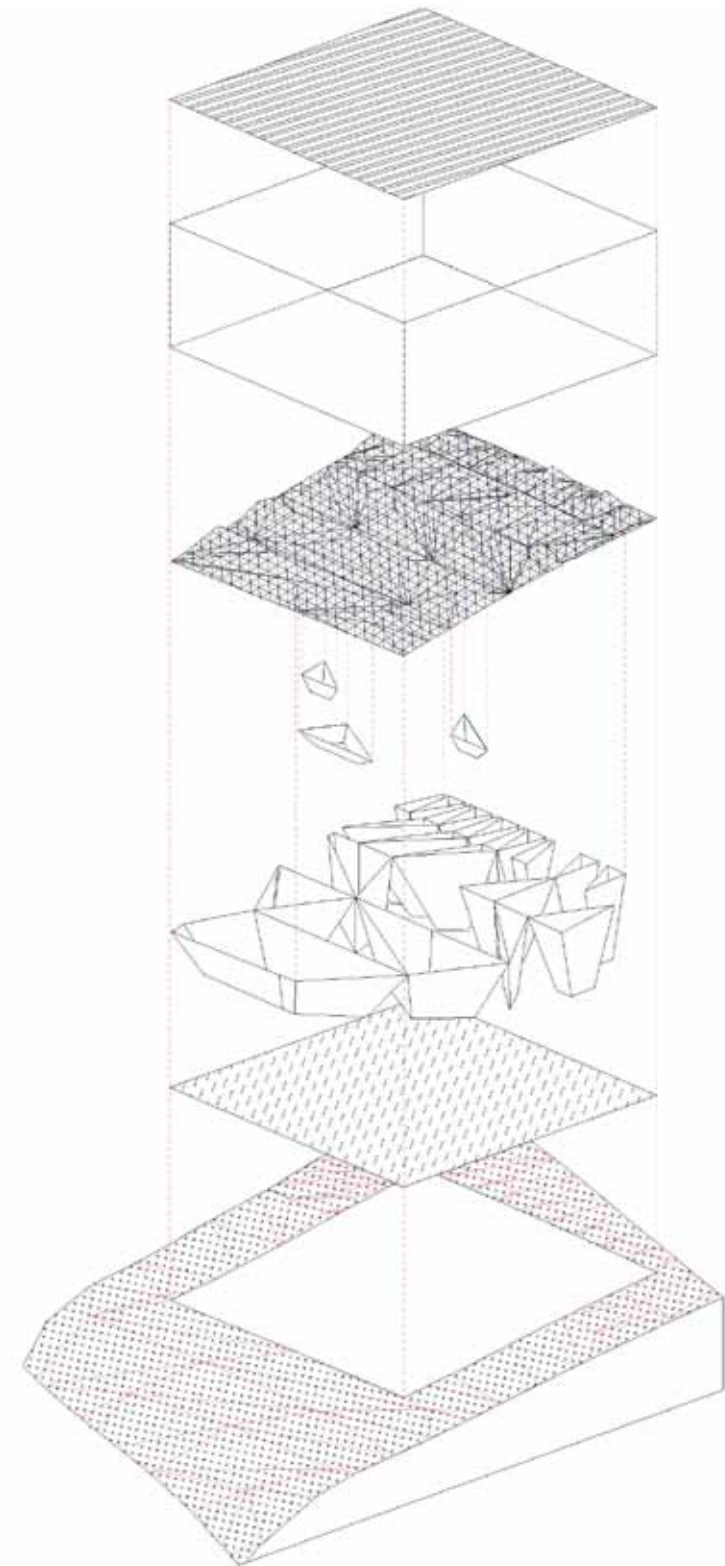
ARCH 202A. SITE WORKS

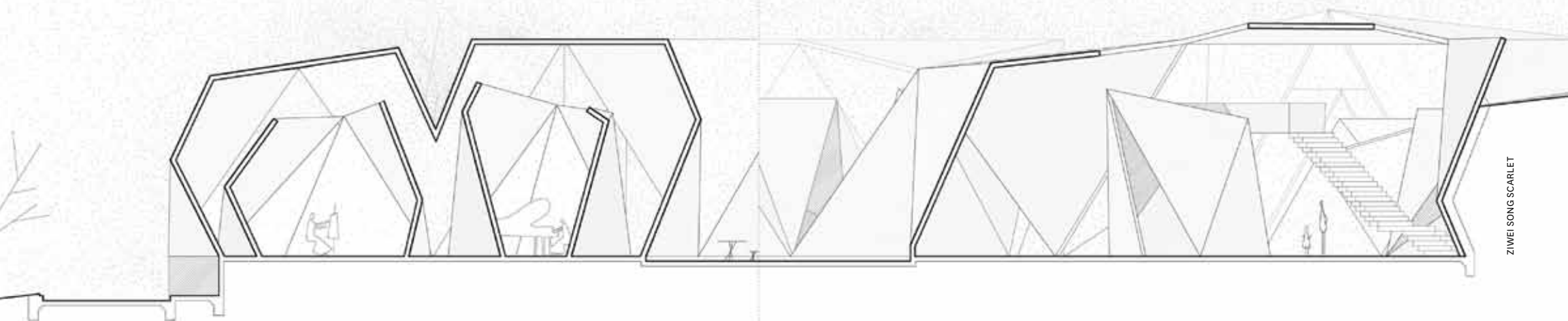
COORDINATOR: Victor J. Jones. **INSTRUCTORS:** Ric Abramson, Carlo Aiello, Dana Bauer, Laurel Broughton, John Dutton, John Frane, Brendan Muha, Christopher Warren

In the fall, the Second Year Design Studio introduces fundamental knowledge about buildings and their sites. The relationship between site and building is initially explored through critical analysis as students examine historic and contemporary works of architecture, landscape architecture, and land art to understand site organization strategies and philosophies of site manipulation. Topics of topography, hydrology, ecology, typology, and other form-giving imperatives are introduced along with methods of site plan representation. Design projects include assignments focused on representational conventions and drawing techniques as well as a comprehensive design project exploring the interface between site and program. By designing a new arts facility for SLANGUGE, a non-profit organization dedicated to assisting artists at various points in their careers, an emphasis on pattern and geometry is paired with extensive investigations into operative techniques to offer new architectural strategies that could cultivate innovative spatial organizations within a topographically challenging urban site.

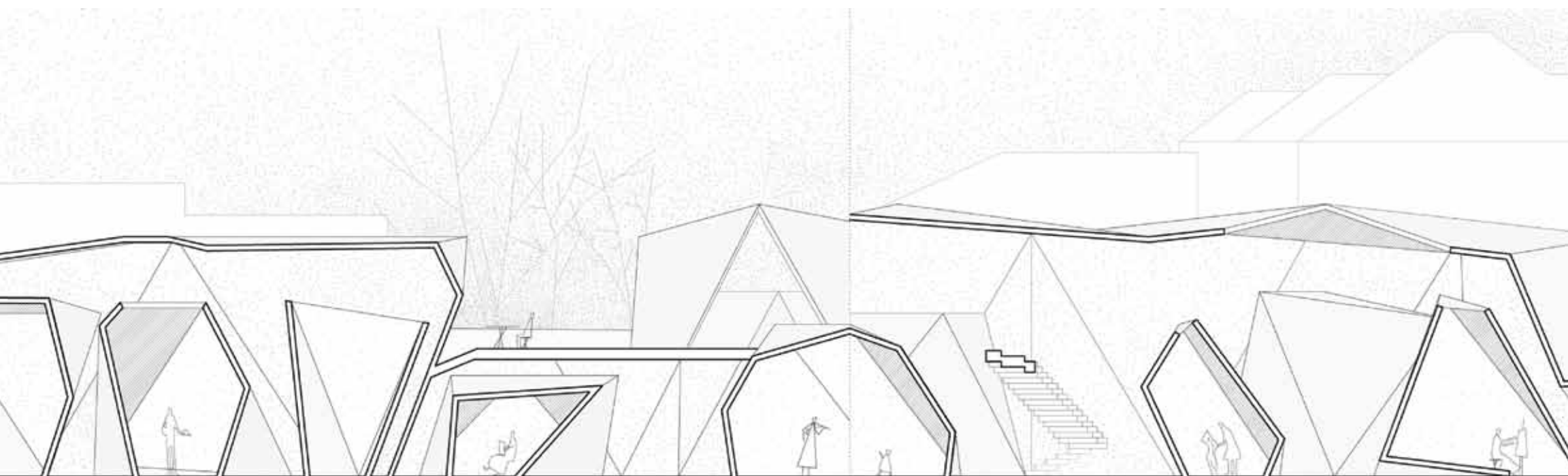


BOTH PAGES: DARLE SHINSATO





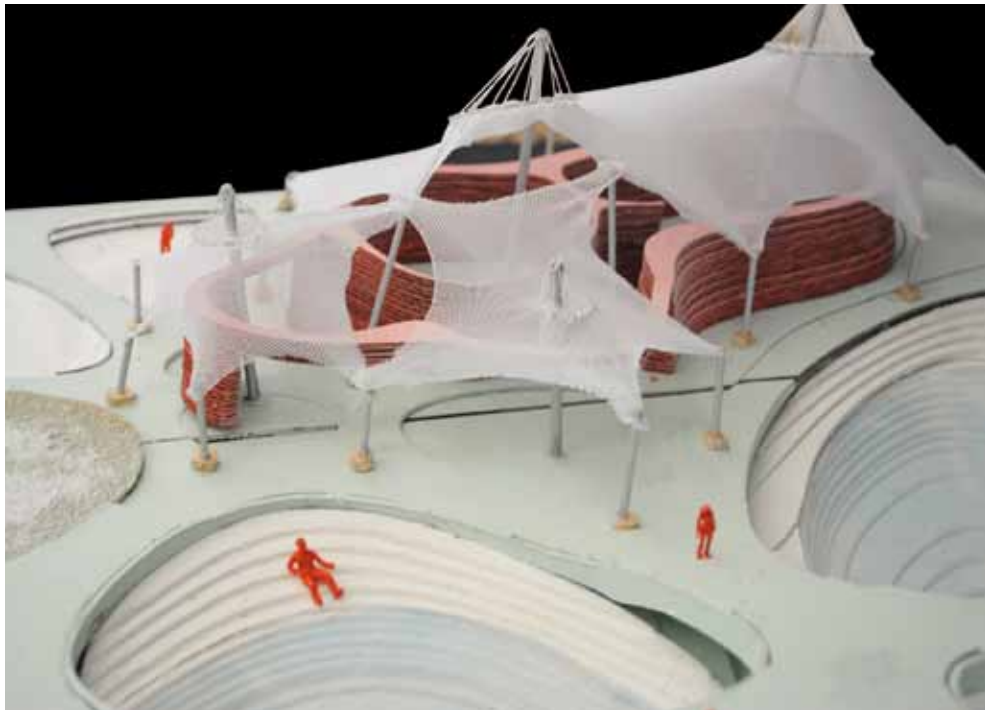
ZIWEI SONG SCARLET



ARCH 202B. MATERIAL/ARCHITECTURE

COORDINATOR: Eric Nulman. **INSTRUCTORS:** Carlo Aiello, Dana Bauer, Laurel Broughton, John Frane, Christophe Kepeller, Brendan Muha, Anna Neimark, Aaron Neubert

Studio 202b was the fourth in a design sequence developing the connection between materials and architectural design with an emphasis on abstract making through conceptual modeling, design drawing, graphic capabilities and physical modeling. The desired learned outcome was an understanding of how a material and its associated systems of assembly can be intertwined with the design process to generate the performance, form, and experience of architecture. Throughout the semester we explored the formal implications of material and representational composition in four exercises: [1] Material/Precedent, [2] Assemblies, [3] Material Systems, and [4] Material Architecture. The first segment Material/Precedent was the focused deployment of an architectural material case study: through the unpacking of a precedent of specific historical significance, students produced a collection of analytical and representative models focused on the tectonic and material implications of design. The second segment Assemblies engaged the relationship of connections and larger systems of assembly: given a very specific unit and a limited collection of operations [cutting, drilling, notching] each student developed an individual material tectonic. The third segment Material Systems translated the relationship of part to whole within the larger system of a building: students engaged the limitations and capabilities of working within an existing system of materials, concrete masonry units were selected as the base framework. The fourth and final segment Material Architecture integrated process, material, and program in a specifically sited context. Beginning with intensive research into three methodologies of casting, unit, and line, the engagement developed a system through material fabrication. Translating all or one of three systems into a building with a clarity and cohesiveness, the final project resolved the complexities of structure, materials, program, site, and experience. The exercise synthesized the previous lessons learned and emphasized a material driven design process through making and representation.



ARCH 202B.



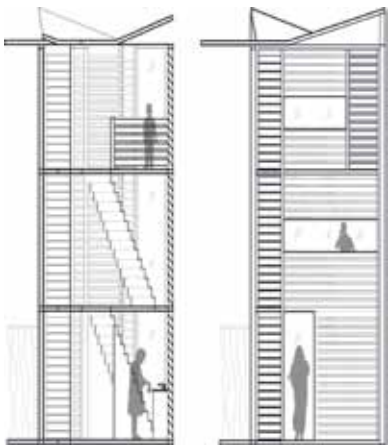
ARCH 302A. HOUSING AND SUSTAINABILITY STUDIO

COORDINATOR: Liz Falletta. **INSTRUCTORS:** Michael Ferguson, Eric Haas, Christoph Kapeller, Aaron Neubert, Lorcan O'Herlihy, Jennifer Siegel, Warren Techentin

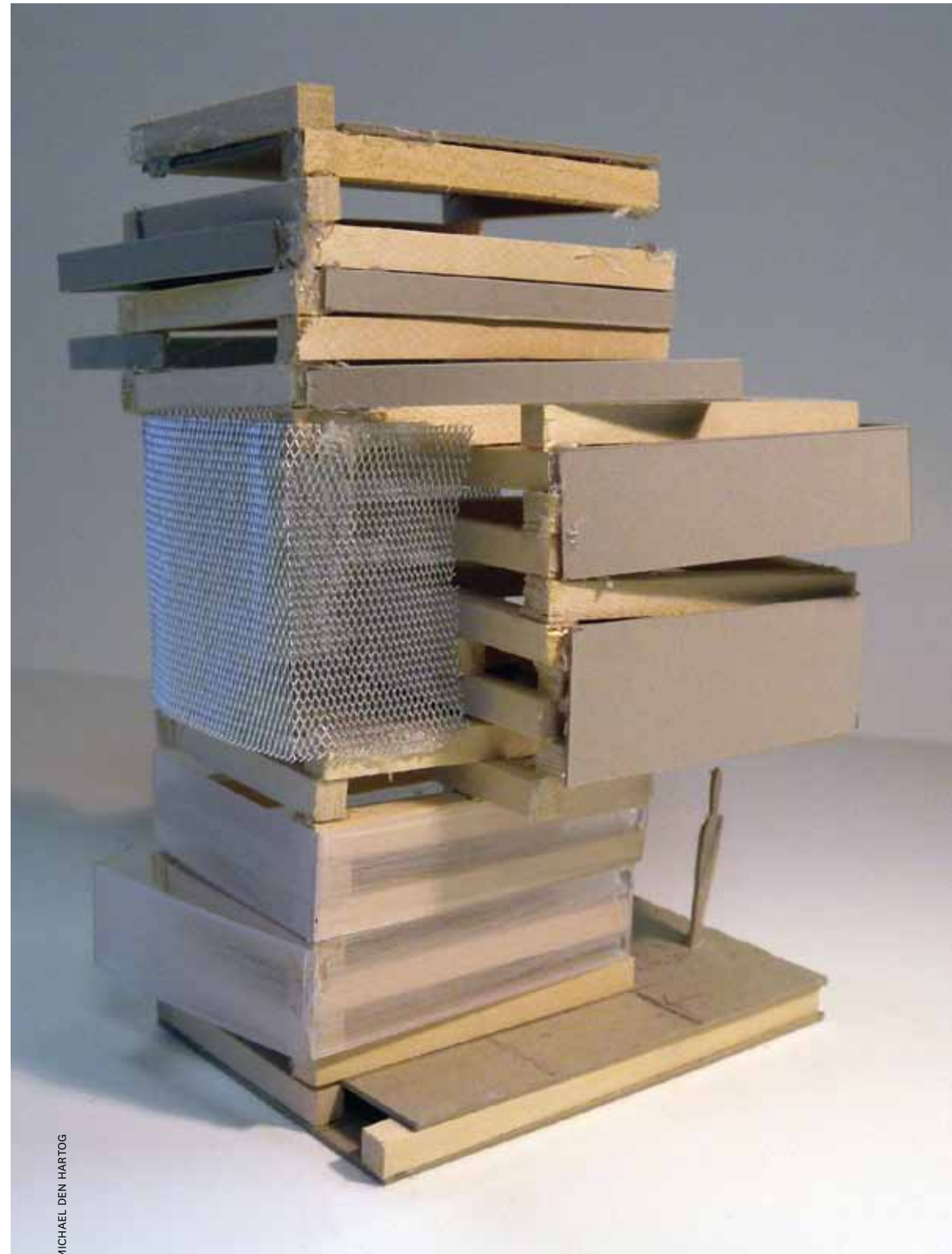
Dwelling units constitute the predominant built form in our communities. Whether standing alone or accumulated into clusters, they reflect the needs and aspirations of individuals, families or other groupings, and communities. The design of dwelling units both reflects and determines the ways in which we organize and use our living environments, interface with nature, consume limited resources, and choose to relate to our neighbors. Housing can be considered the framework that holds the city fabric together. When considered collectively, it is present everywhere, becoming the physical connective tissue of the city as well as the background against which public, institutional and commercial buildings express their distinct roles.

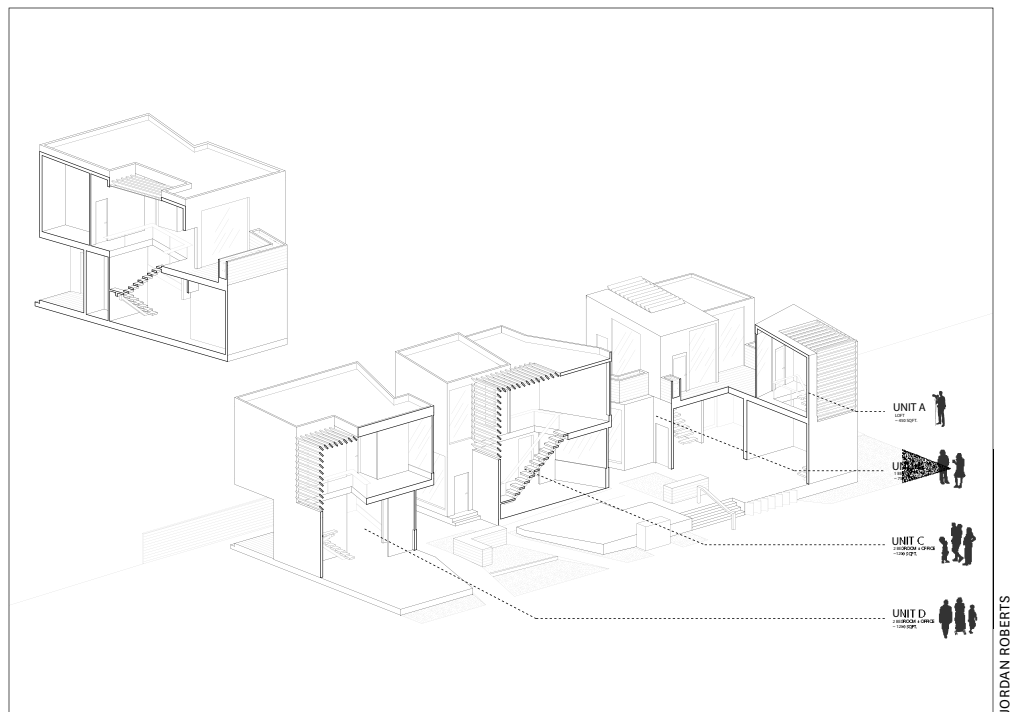
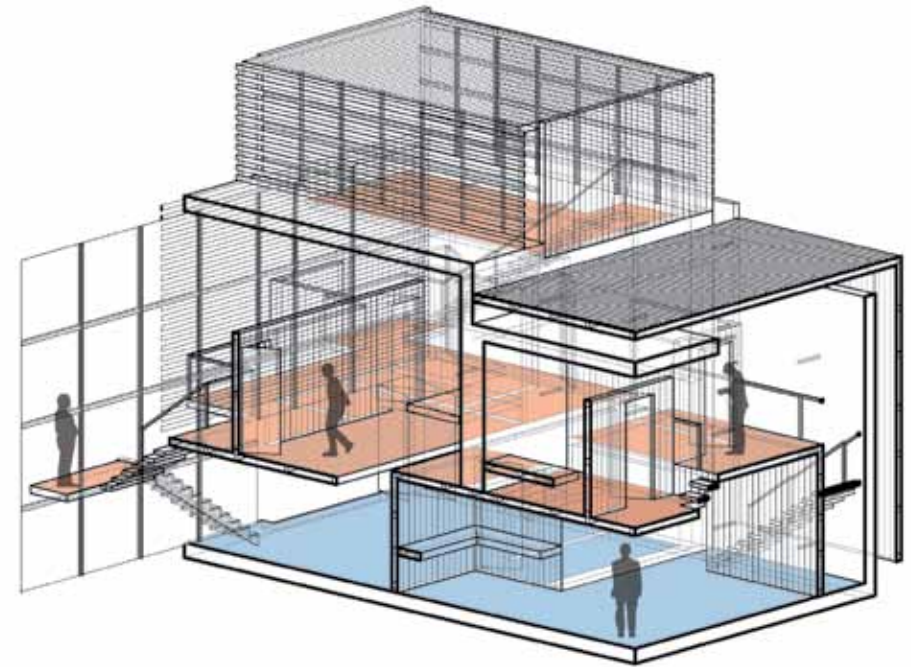
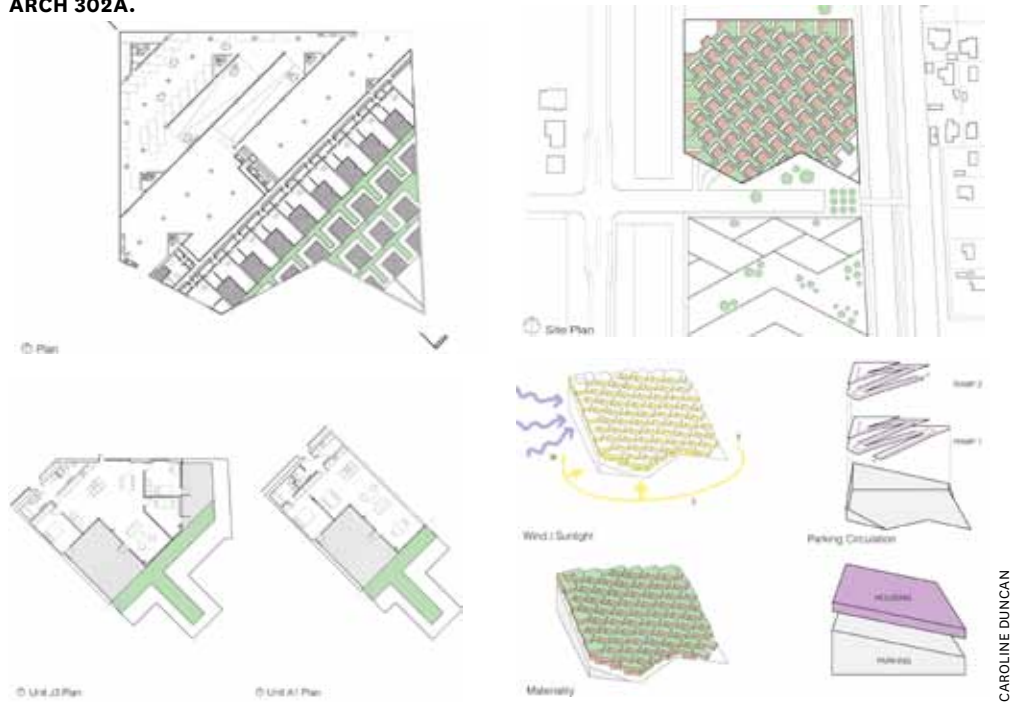
At the completion of this studio, students clearly understood housing as a set of building typologies locked in a social and historical continuum; as everyday, performative objects (and spaces) embedded in the city; and as an integrated system (and species) of building comprised of multiple and diverse elements, characteristics, and materials. In addition, this studio equipped students with an informed understanding of social, ethical and environmental problems and developed their capacity to address these problems with sound architectural and urban design decisions.

The studio explored methods and techniques to understand the design of dwelling unit plans and interior spaces, unit aggregations, arrangements and organizations, building plan, section and elevation development strategies, as well as site organization and the programming of open space. In addition, the studio asked larger scale questions about the influence of social formations on spatial activities and physical form, the role of housing in the urban context and the need to integrate sustainable strategies of design into housing.



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ARCH 302B. INTEGRATIVE STUDIO: PROGRAM / SYSTEMS / SITE

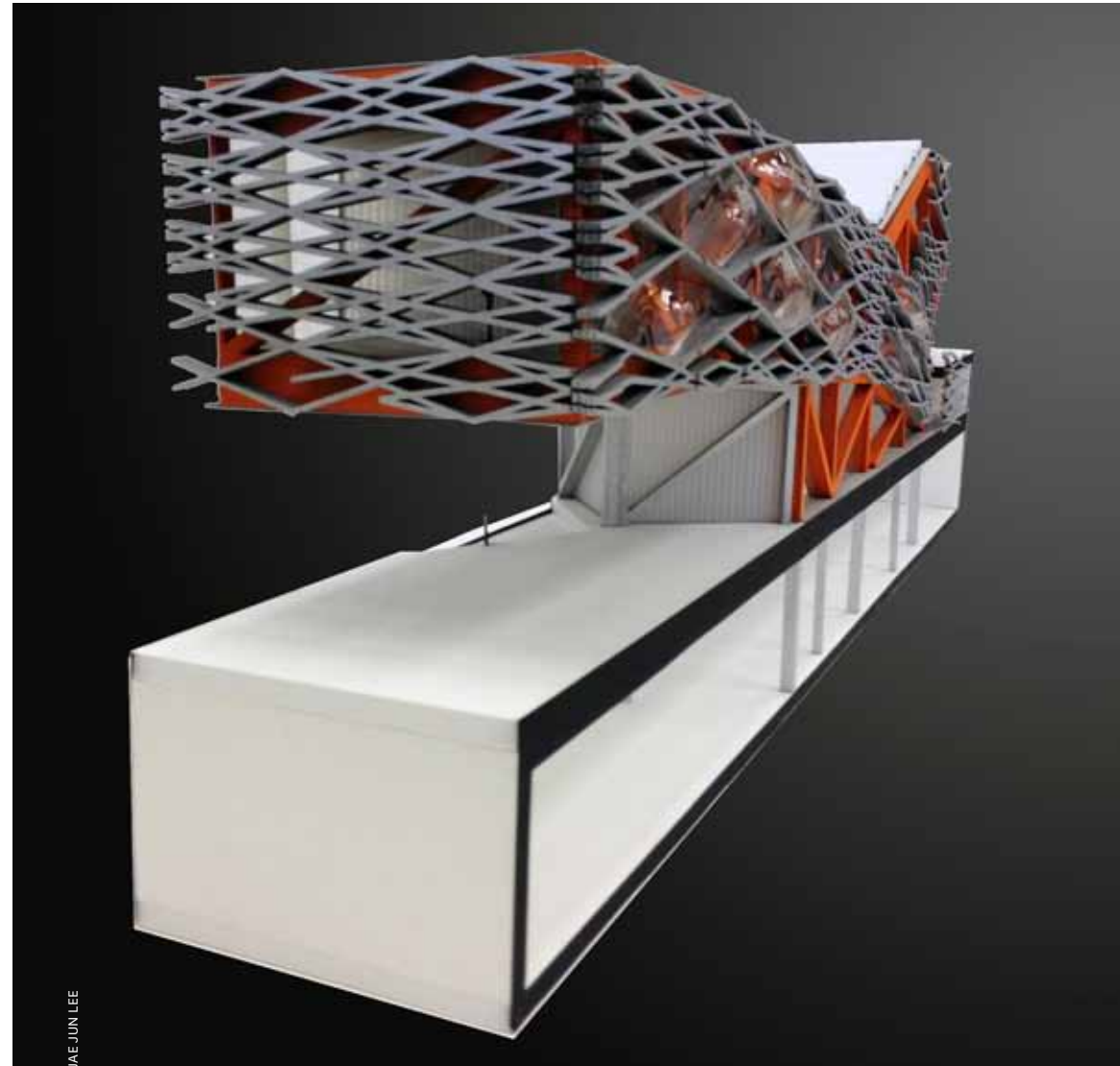
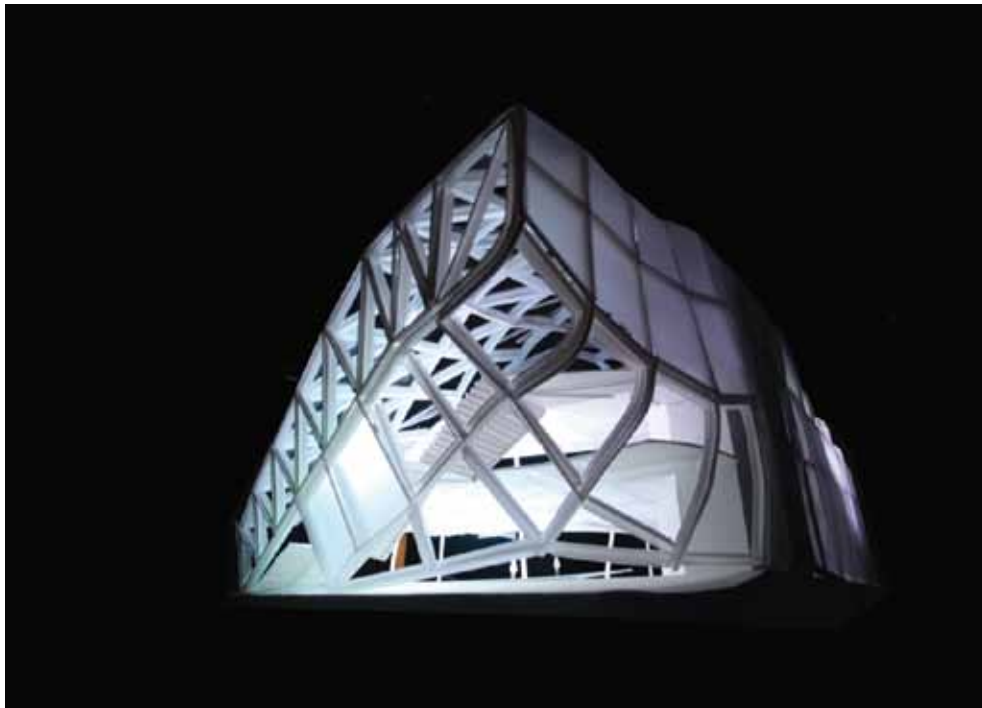
COORDINATOR: Eric Haas. **INSTRUCTORS:** Valery Augustin, John Dutton, Jeffrey Kim, Eric Mar, Selwyn Ting, Scott Uriu, Edwin Woll

The third year Spring studio promotes a host of issues that students address: a design program to be interrogated and augmented, site and context studies, sustainable and passive environmental strategies, the regulatory demands of life safety and accessibility, structural approaches and techniques, mechanical systems, construction tectonics and materiality. All these factors are integrated to produce multi-dimensional thinking and consolidated solutions.

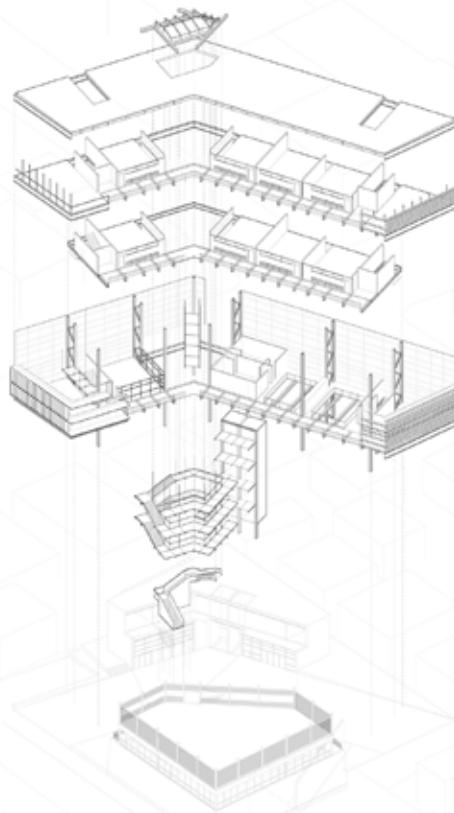
Students worked on a semester-long comprehensive design problem, the program for which was a Charter High School with a community-connective component to encourage temporal sustainability through all-hours occupation of the building and site. Three sites, each with a distinct context, orientation and topography, provided the locus for the investigation.

With such a cumulative and far-ranging project, the studio required a great deal of sophistication in integrating the various requirements of architecture. The investigations followed three main tracks: program, in both its functional and fluid modes; systems, whether physical and material like structure and façade tectonics or immaterial factors such as movement and natural light; and site, to encourage grounding in the specific and thinking outside the building envelope.

Bringing the conceptual, design and graphic skills learned in the first years and layering upon them the pragmatics of building, students were able to harness possibilities and establish reciprocal relationships among the factors they studied. With a complex, holistic project every avenue was open to exploration, resulting in a range of successful solutions.

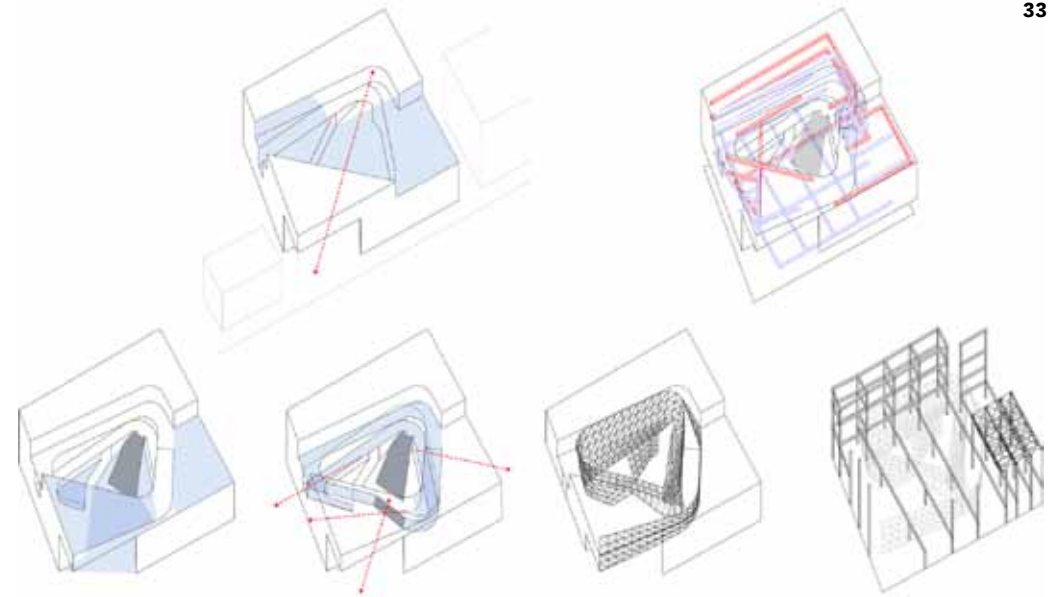


ARCH 302B.



MICHAEL DEN HARTOG

KAREN LEE



33



LEO YU



LEO YU



UNDERGRADUATE TOPIC STUDIOS

OFFERINGS ARE INTENTIONALLY BROAD AND DIVERSE

TOPIC STUDIOS

37

The undergraduate topic studio offerings propel students who have completed 3 years of core studio studies into themed studio undertakings. These studios are taught by instructors from within the school's faculty pool and from accomplished practitioners in the architectural community. They are structured as semester long research and design endeavors guided by a topic of contemporary discourse framed by the studio faculty. The topic offerings are intentionally broad and diverse in order to provide the students with an understanding of the relevant reaches of architectural thinking and design intentionality while giving them ample options to select studio subjects of differing and personal interests.

Studio offerings for the 2011 – 2012 school year engaged with issues of scale, typology, program, disciplines, social, cultural, materiality, technology, sustainability and the urban. Along with conceptual and ideological pursuits, disciplined technical and systems analysis were integrated into the semester. A series of all studio lectures and in-studio consultation sessions by industry and technical experts provided real world concerns and plausible solutions to the students' design thinking as well as work.

A total of 19 studios were offered for the academic year; fall semester consisted of Mario Cipresso's U.S.-Mexico Border investigation and proposal of urban-scale interventions as [inter]cultural condensers. Stefano de Martino's studio researched urban issues surrounding six cities under 60 years of age. Steven Ehrlich and Takashi Yanai tasked students to design an international conference center in Nigeria as social and cultural catalyst. Joseph Giovannini and Michael Dobry proposed a rethinking of the Olympic swimming stadium in London. Rob Ley's studio used the development of character and behavior as means to articulate a bio-tech agriculture school. Erik Mar's studio examined affordable housing reconstruction solutions for the crises in Haiti and Japan. Kristine Mun's students developed a full-scale feedback-drawing machine in an effort to understand the interaction between machine and drawing. Gary Paige's studio investigated the necessary and reciprocal relationships between landscape and building. Lawrence Scarpa's studio proposed designs for a community center along the L.A. River fully exploring the tensions between materiality, form and experience. Roland Wahlroos-Ritter offered an investigatory lead of architecture's role in altering water consumption behavior and recycling/harvesting techniques. Finally, Christopher Warren studio's port terminal proposals examined the concept of identity through the implications of homogeneity as a byproduct of globalism.

For the spring semester, Mario Cipresso's studio took on the Department of Energy's 2013 Solar Decathlon competition to conceptualize net zero strategies for the single-family typology. Frank Escher examined the intersection between the experimental visual and musical culture of Los Angeles through a new performing and performance art center. Charles Legreco tasked his students to rethink the high school typology through an innately community filter. Andrew Liang's studio explored the projected Los Angeles high-speed rail station as an urban catalyst and repurposed the station as a new public epicenter of the city. Rebecca Lowry reached deep into the perceptual and habitual exchange between subject and object, user and space. Graeme Morland's studio integrated mixed-used developments with the ever-expanding Los Angeles Metro rail network and nodes. Olivier Touraine explored "market" induced adaptable, transformational and sustainable building models as well as systems.

Mario Cipresso & Andrew Liang
Topic Studio Coordinators

ARCH 402. JIASHAN ROAD/YONGJIA ROAD HISTORIC CORRIDOR, SHANGHAI

INSTRUCTOR: Paul Tang & Yuyang Liu

Design proposals within a dense complex urban context are at best understood as urban models projected as a possible scenario based on fixed parameters. In this regard, the most powerful notion of “model” lies in its potential of “remodeling”. Within this framework of “remodeling”, the intent of the 2011 AAU Shanghai workshop is to investigate the multiple urban narratives of the historical and new that coexist in the Jiashan Road/Yongjia Road Historic Corridor in the old French Concession of Xuhui District (see Site). As a condition of “remodeling”, specific issues of tradition vs. contemporary, historic vs. adaptive, social/political vs. global/economic will be explored as value systems to guide the design engagement. Fundamental questions of appropriate design intervention as conditions of change and renewal will be analyzed.

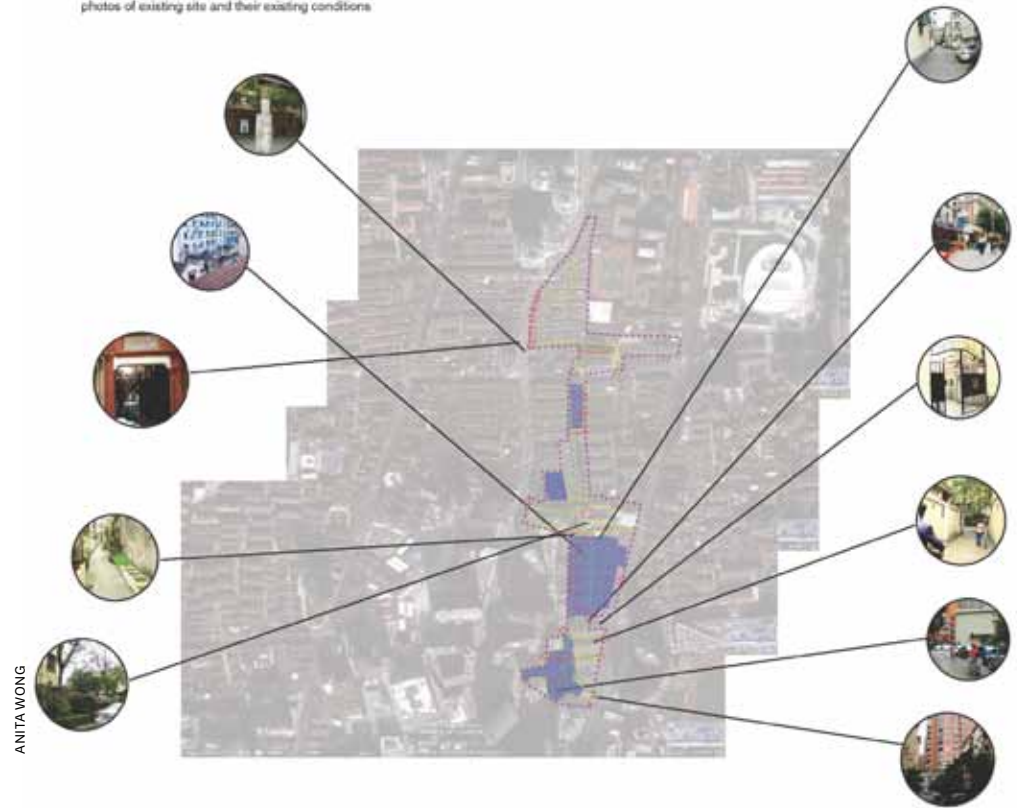
Historically, the Chinese approach to architecture has been less formally experienced than the West. The Chinese were less concerned with the actual physical construct and more with the inherent hierarchy and social relationships engendered by space. Social order, ritual, and ceremony prevailed. Procession and awareness of one's social position and relative location and movement dictated the built form. For the traditional Chinese, architecture and city is the codification of its patriarchal and hierarchical society.

Today, through Mao's revolutionary policies to create an egalitarian society and China's more recent shift toward capitalism as a necessary mean to modernize into the global stage, many of the traditional social values have started to redefine itself. As a consequence of this social phenomenon, compounded by conditions of the contemporary world, one made up of open borders, merged languages, free markets, translational identities, ephemerality, speed, pragmatism, and size; Chinese architecture and cities becomes the new critical forum for intellectual engagement.

The project proposes to establish a performative framework for the design engagement. An engagement that is necessarily operational and projective. An open ended interrogative approach not necessarily aimed at solving problems but exposing inherent contradictions, vacillations, and constant transformations. The fact that post Cultural Revolution Chinese contemporary society is increasingly globalized means that the values of individuality, specificity, language, or idiosyncrasy need to be reevaluated in light of processes that require trans-historical, trans-cultural, trans-subjective operativity. The objective of this exercise will be to investigate the process and translative definitions as domains of design research rather than language, image, character, or subjectivity characterized by the romantic, the expressionistic, the picturesque, and vernacular.

EXISTING SITE

photos of existing site and their existing conditions



INSTRUCTORS: Mark Cigolle & Kim Coleman

Students worked initially in five-member teams to analyze the surface structure of Barcelona from Placa de les Glories to Estacio de Franca and from Parc de la Ciutadella to the Mediterranean Sea, and propose strategies to densify and diversify this area of the city, looking ahead to develop housing, commercial, educational, and cultural functions, resulting in a range of both scale and use and a commitment to public space. Analysis focused on reading the urban surface structure, looking at the physical form and disposition of the city in relation to its development over time and transformative potential.

Subsequently, each student identified an individual project focus and explored how strategies outlined by their team in the urban framework study phase could be demonstrated through more specific site & program detail. For each team, the goal overall was the design of an archipelago of individual projects, as discussed by Pier Luigi Aureli in *The Possibility of an Absolute Architecture*, which share a set of intentions that together may provide a transformative effect on the larger urban context. Projects include a combination of programs: public or social spaces, cultural or educational facilities, commercial or work areas, and housing. The intention of the resulting catalytic project strategies is to create connection, densify neighborhoods, activate and connect public spaces or streets, and support a rich landscape of programs for the urban community.

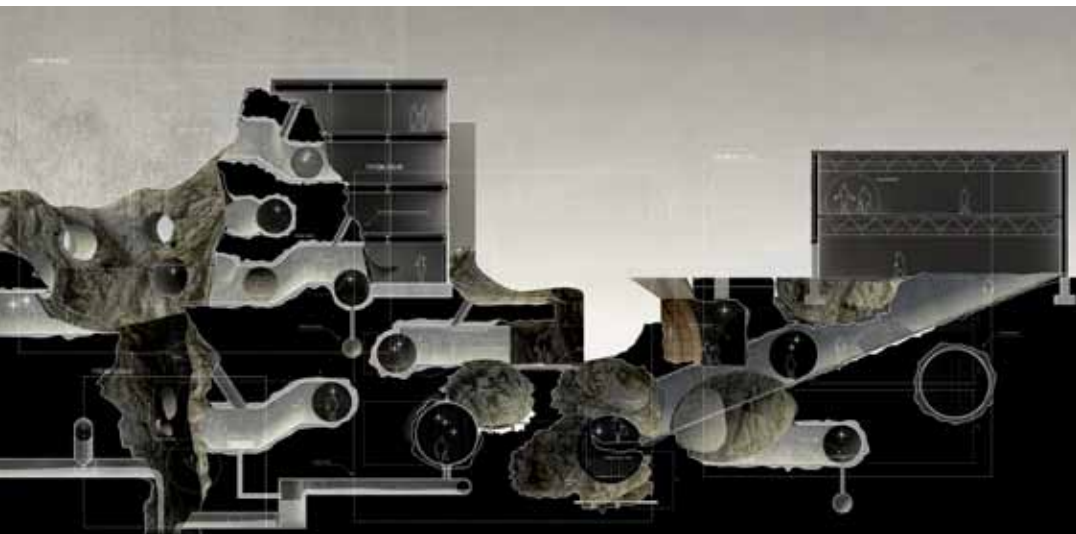


ARCH 402C. BORDERSTUDIO

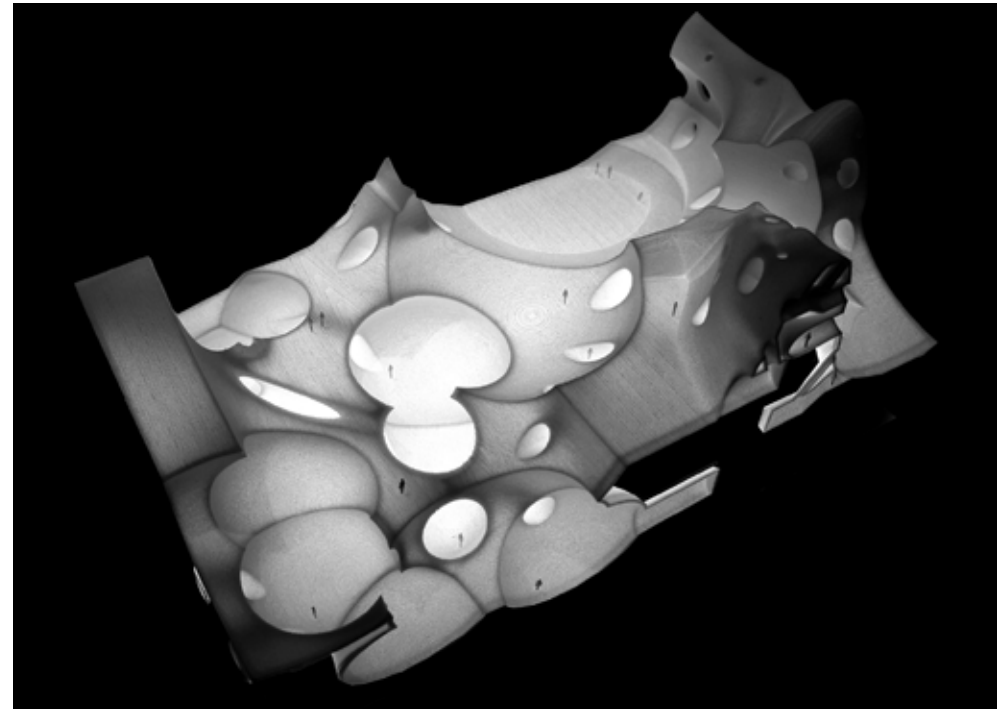
INSTRUCTOR: Mario Cipresso

The 1,989-mile border between the United States and Mexico is the single longest divide between a developed nation and a developing country in the world. With a physical land area of 157,600 square miles, the border region is home to over 12 million people, 90% of whom reside in one of 14 paired, interdependent sister cities. This population is expected to double by the year 2020. Imagine the increasing demands created by such rapid growth on a region already plagued by higher than normal poverty levels and environmental health problems due to massive land, air and water contamination. Competition between border cities for dwindling natural resources is a growing source of friction with water being placed squarely in the forefront. Supplying growing urban centers and new agricultural developments in a particularly arid region is a matter of increasing concern. Add to this concerns of international security in a post-911 climate, a growing illegal drug trade, and negative impacts on indigenous wildlife in the area and you have a highly complex region with equally challenging issues. Despite the myriad sources of strain on the cooperative relationships of the 14 sister cities, the people of both countries have found and maintained common ground in cultural, social, economic and even political matters.

BORDERSTUDIO was positioned as a critique of the international policies brought to bear on the region by the governments of both the United States and Mexico. Through intense research the studio required careful consideration of the political, social, economic and environmental issues affecting the border in an effort to propose a construction program of radical connection rather than separation. This prompted the formulation of hybrid programs, strategies and policies that speak to root causes. The scale of the studio projects were no less ambitious than the 700-mile border fence.



ALL IMAGES: ERIN CUEVAS



ARCH 402. 6 UNDER 60

INSTRUCTOR: Stefano De Martino

This project on 6 new cities explored contemporary issues that brought to light the changing landscape of cities, particularly those that are still in their initial century of existence, and how art, public art, design, architecture, landscape architecture and the cinematic and media arts can contribute to and illuminate this process of emergence. Further, this project investigated how to use information as a medium, how to generate a dynamic archive and how to create an interface for public use.

We presented our work at the Shenzhen & Hong Kong Bi-City Biennale of Urbanism/Architecture in China (December 2011), curated by Terry Riley.

The exhibition focused on planned cities built since the 1950s: Chandigarh (India, 1953), Brasilia (Brazil, 1960), Gaborone (Botswana, 1964), Almere (Netherlands, 1976), Shenzhen (China, 1979) and Las Vegas (USA). The project considered the evolution of these cities – the trajectory from their original mission to what they have become both locally and within expanding global considerations.

This project was a collaboration of the School of Architecture, Roski School of Fine Arts, and School of Cinematic Arts/ Interactive Media. We worked closely to produce information, collect data and present findings in an interactive installation. Guests to the studio included Karen Lohrmann, Jai Kumaran and Clayton Taylor.



ERIN CUEVAS



INSTRUCTORS: Steven Ehrlich with Takashi Yanai

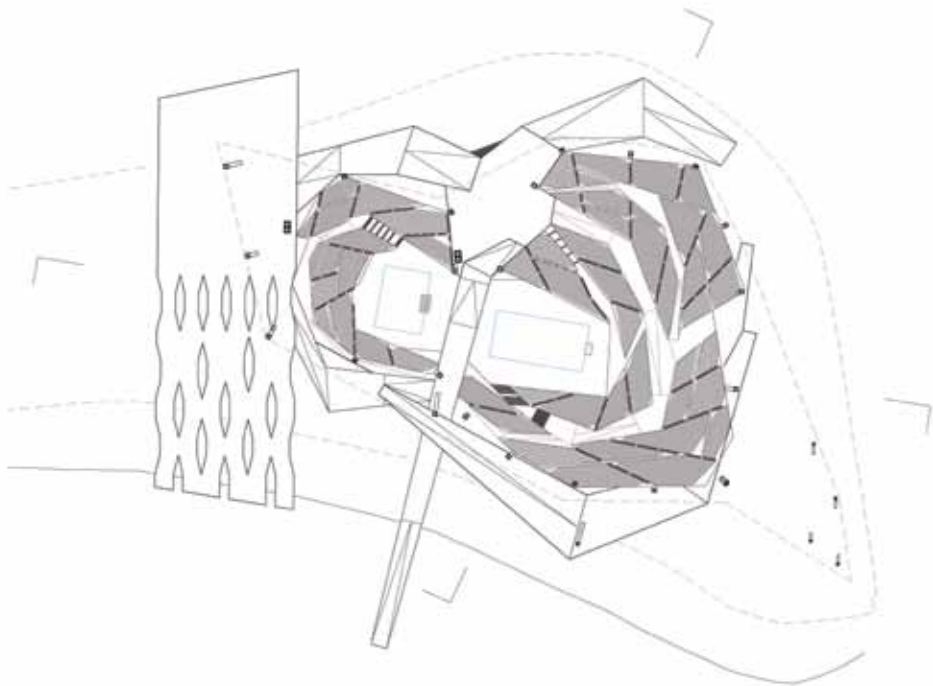
During the global building boom of the last decade, western architects were hired in large numbers to design in countries with very different cultures and architectural traditions. As economies surged in places as diverse as China, United Arab Emirates and India, top American and European firms took the lead in creating large-scale public buildings. Today the skylines and urban fabrics of Shanghai, Dubai and Bombay bear the imprint of these international architectural “brands”. How should architects-in-training prepare themselves to address design challenges anywhere in the world? Should they evolve an architectural vocabulary that “work” in any context? Or should they design in response to specificities of site, culture, climate, and local materials? Should a building in Beijing look like a building in Boston? The Design Problem presented here challenged students to dig deep for a design solution that is simultaneously local and global, contemporary and mindful of the past. It asks what is culturally and socially appropriate so that the building will resonate with meaning.

Nigeria, with 140 million residents, is “the giant of Africa.” Its free press openly debates the country’s struggles to lift itself out of entrenched corruption, political instability and economic mismanagement. Yet its potential as an emerging world power is huge. Abuja is the country’s jewel, the repository of oil rich Nigeria’s dreams for a better future. “The Center of Unity,” as proclaimed by local license plates, Abuja was established as the nation’s capital in 1991. Modern Nigeria is a kaleidoscopic jostling of contemporary and traditional cultures, vibrant with art, dance, drama, music, literature and film. To stimulate economic growth the Federal Government, which believes the private sector is the key to Abuja’s development, is actively soliciting domestic and foreign investment with a package of incentives and deregulation including the development of this project.

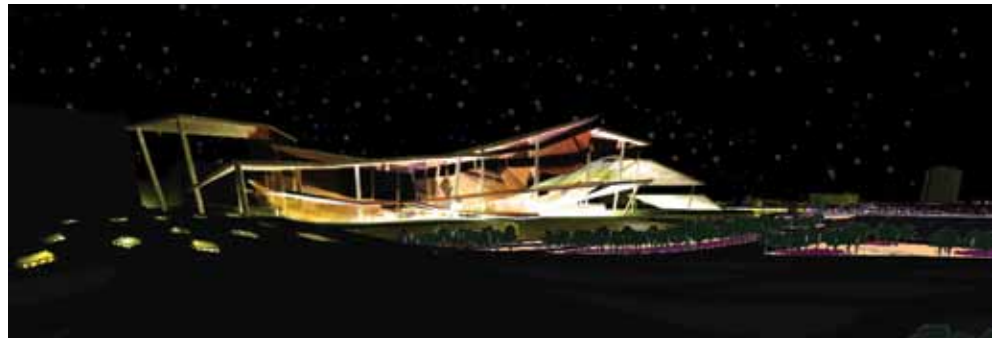


INSTRUCTORS: Joseph Giovannini with Michael Dobry

The studio questioned the computer as it embraced it, pursuing through sketch problems about materiality and space “first architectural principles” that do not find themselves, among other issues, on the menu and tool bars of most computer programs. Starting with research on the history of space concepts—Aristotelian, Einsteinian, Cubist, etc.—and then proceeding to hands-on manipulation of materials in model studies, the students pursued tutorials in grasshopper, the parametric grasshopper program, which they would apply in their design of 2012 Aquatics Center for the London Olympics. The Zaha Hadid office, architects of the just completed Center, supplied the studio with the actual program, and students proceeded to design the building from concept to structure. They first analyzed the goals set forth by the Olympic committee in the context of cultural expectations of an Olympics set in England: the documents set forth the metaphor of the human body as an inspiration for the building design, noting issues of performance, musculature and physical tensions—metaphors that adeptly skirted issues of post-Modernist historicism still proposed by members of the English establishment. Then the students analyzed the site in the context of its East London neighborhood and the larger Olympic park, reclaimed from a former industrial rail site that was contaminated and remediated: the buildings and the park are considered an ensemble important as a legacy to the local and larger London communities. The plan of the park echoed images of the English garden, but fitted with buildings devoted to sports. As architecture, the project was uniquely suited to undergraduate architecture students because with three pools and backup office and locker spaces, the program was substantial but not overly complex. But the cultural imperative for an architecturally distinguished if not iconic building required the students to understand a commission that demanded more than simply a functional response. The design had to give London a telegenic architectural moment that would hold the screen and enter the long list of significant buildings that mark more than a century of the history of Olympic architecture.



BOTH PAGES: JENNIE MATUSOVA



ARCH 402. BUILDING BEHAVIOR

INSTRUCTORS: Rob Ley

We began the studio with the belief that the responsibility of architecture can and should be more than to provide shelter. More specifically, it would seem that as fields outside of architecture (transportation, medicine, communication, etc.) have evolved exponentially as they directly emanate from technological developments, architecture too stands to benefit from advances in material sciences, computational capacities and information fluidity. Rather than continue in the belief that good architecture is that which serves its users, our goal was to create an architecture that contributes a behavioral position.

This studio looked toward a model of architectural design that embraced environmental concerns not simply through a desire to minimize energy consumption, but rather as a vehicle to re-examine our very relationship to our immediate surroundings. We attempted to commandeer the renewed interests in green design and steer the final outcome towards an architecture that concerns itself primarily with the development of character and behavior, and secondarily with energy management and efficiency. This reversal of priorities, it was believed, would deliver a new approach to building design that in the end would arrive at a sincere engagement of both inspirational and responsible design.

The studio focused on a 35 story vertical farm and bio-tech school sited in downtown Los Angeles. Particular emphasis was placed on the active building envelope and the social and programmatic conditions it created in and outside of the structure. This hybrid building typology would allow students and researchers to have an active observance of various plant species in quasi-natural habitats.



ARCH 402. INTEGRATIVE RECONSTRUCTION

INSTRUCTOR: Erik Mar

In the first phase of the studio, we will develop and fully document five separate building designs for reconstruction in Haiti and one emergency shelter design for Somalia. We will design two single family residential types and three community / commercial types in Haiti. All six designs will all be built, probably within the next year, using Structural Insulated Panels (SIP) developed by Pacific Green Innovations and currently being manufactured on site in Haiti and soon in Somalia. We will evaluate design alternatives and evaluate environmental performance using BIM software models in conjunction with the Arch 519 class and the Arch692a class. We will also meet with and exchange ideas and feedback with a similar topic studio at Cal Poly Pomona working on the same building types. The final product for each building type will be a full set of documents detailing each and every building component as well as a set of installation instructions for assembly by semi-skilled and unskilled labor. Because these projects are ireali - they will be built prototypes, which, depending on results, may be replicated throughout the country - the emphasis will be on design as the optimization of resources for maximum performance in structural and environmental terms.

The second phase of the studio will shift focus to Japan. The panel manufacturer is interested in reconstruction there as well, and we will work on speculative prototypes for that very different climate, culture, and economy. Students should apply the tools acquired during the first studio phase here, but the emphasis will shift to innovation - in material use, in form, in project conceptualization. This type of work rarely achieves high levels of formal innovation, and this studio phase will work to challenge that tendency. Fresh thinking leading to new residential models, hybrid community facilities, and future urban infrastructure pieces will be emphasized, but using the common denominator of the SIP panels assembled and analyzed using the methods acquired during the first studio phase.



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ARCH 402. FEEDBACK DRAWING MACHINE

INSTRUCTOR: Kris Mun

It is self-evident that architecture embodies the act of drawing. While the act of drawing varies in subjective interpretations, there have been many attempts to objectify the construction of a drawing. Several major turning points in history stemming from the invention of perspective by Brunelleschi and the invention of mechanical drawings from military applications have led others to imagine machines that can assist in drawing, from Durer's interpretation Alberti to various CAD software. Clearly, we can push the boundaries of what is a drawing even further. With machinic / mechanic assemblages, the act of drawing and its outcome can be seen as one in the same. Berohk Koshnevis' contour craft machine, which is a 3D printing machine, can be considered a drawing machine itself. Furthermore, with machines and devices getting smarter, smaller and networked, we can push the limits to incorporate feedback, interactive systems - between body and drawing, between multiple bodies, between distant networks.

The studio began with abstracting ideas of drawings and machines. Invention was paramount in this studio. We approached conventional drawings from a critical standpoint. Some research inquiries were: What is the interaction between machine and drawing? Is the machine made to make a line in 2D or 3D? Does the machine "read" the line (scanner)? Or is it an intermediate product that connects objects/drawing to person? How does the machine behave, where does it offer a solution to the past and present lineages of design/ drawing and machine?



BOTH PAGES: TIFFANY CHENG



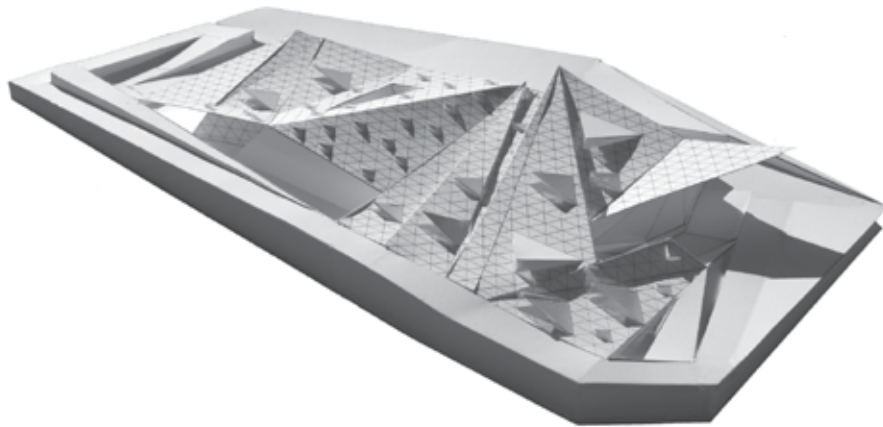
ARCH 402. CONSTRUCTED LANDSCAPES

INSTRUCTOR: Gary Paige

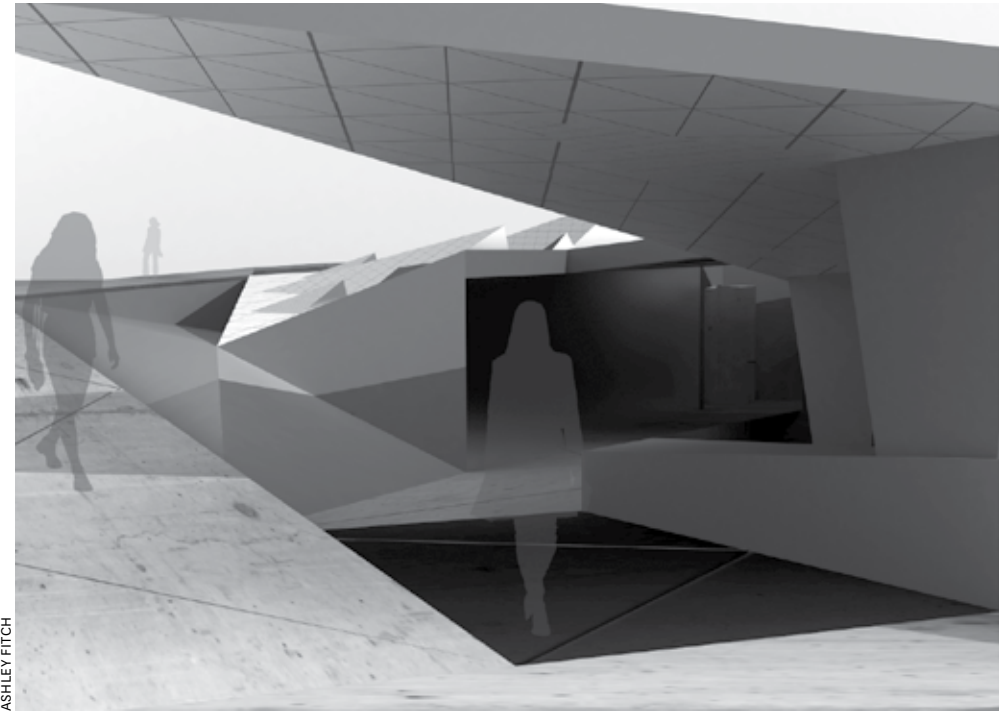
The history of architecture is, arguably, the history of the relationship between buildings and landscapes. Concomitantly, buildings and cities are the manifestation of a complex web of forces that reflect and project—implicitly or explicitly—a philosophical view and give rise to an idea about how we imagine, embody, and subsequently inhabit our environment. Le Corbusier’s dictum that a city “...is the grip of man upon nature” is evidence of one such view. Architecture, he argues, is a tool used to control and domesticate nature; the site (ground) is subordinate to the building-object and typically stands in stark contrast or opposition to the landscape: Architecture as difference or nature’s other. Le Corbusier’s “country villa” on the outskirts of Paris or Mies’ weekend house for Dr. Farnsworth, with their Cartesian envelopes, glazed membranes and laconic whiteness are instructive examples.

Similarly, although not as pervasive, another model posits a complementary relationship by merging the building with the landscape and is exemplified by Wright’s idea of the Prairie House. In this instance, architecture operates as an extension or amplification of the horizontal expanse of the Midwestern plains; building form (and material) echoes the landscape and is perceived as a part of an extended field or territory.

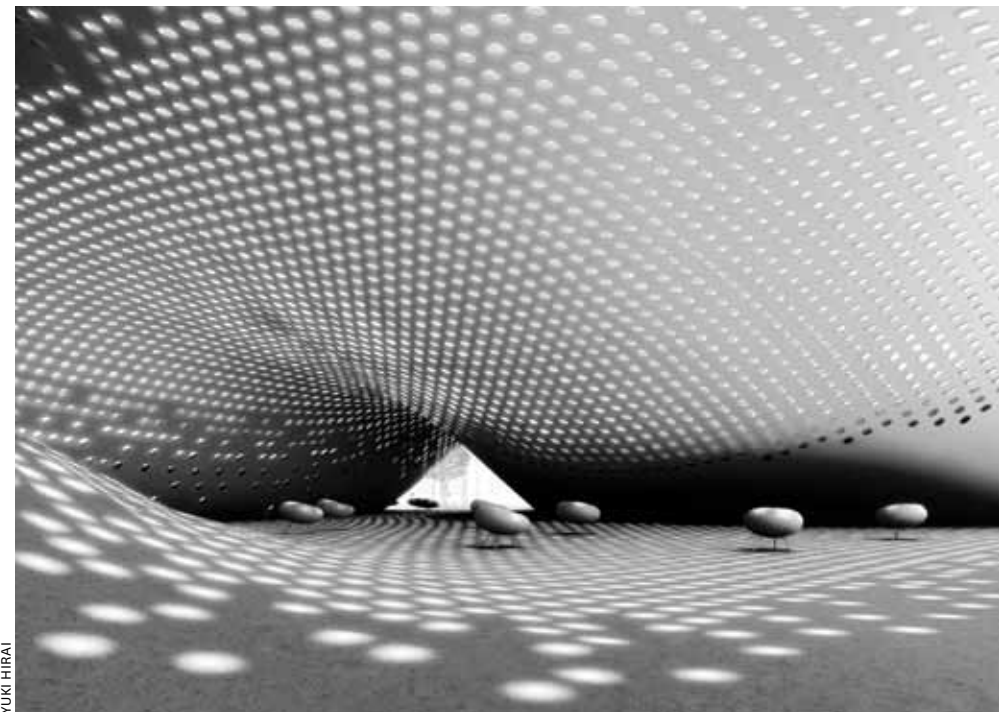
Yet, in spite of the prevalence of these two ideologies, a third and potentially more sophisticated paradigm exists where the landscape is seen not in opposition to built form nor as merging with the building, but rather as a coexistent and reciprocal form that produces a multiplicity of interdependent relationships: Architecture as the productive synthesis of form, landscape and program. This was the subject matter of the studio. The focus of our design research and project was a prototype urban crematory/burial ground based on the Forest Lawn Memorial-Parks & Mortuaries model.



ASHLEY FITCH



ASHLEY FITCH



YUKI HIRAI

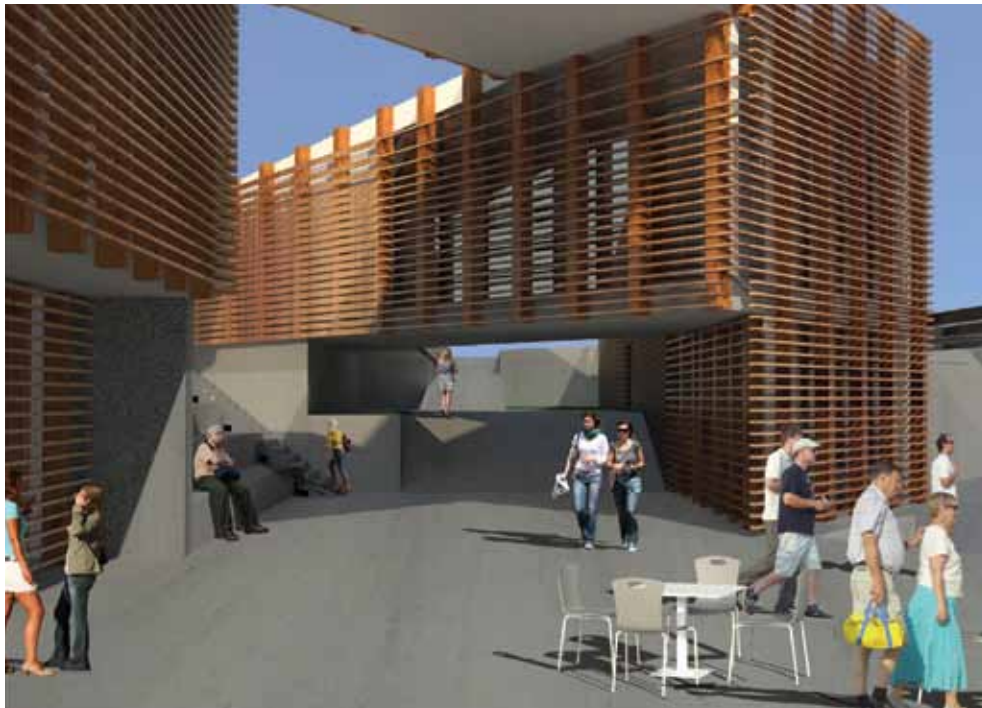
ARCH 402. ENIGMATIC ENVELOPES

INSTRUCTOR: Lawrence Scarpa

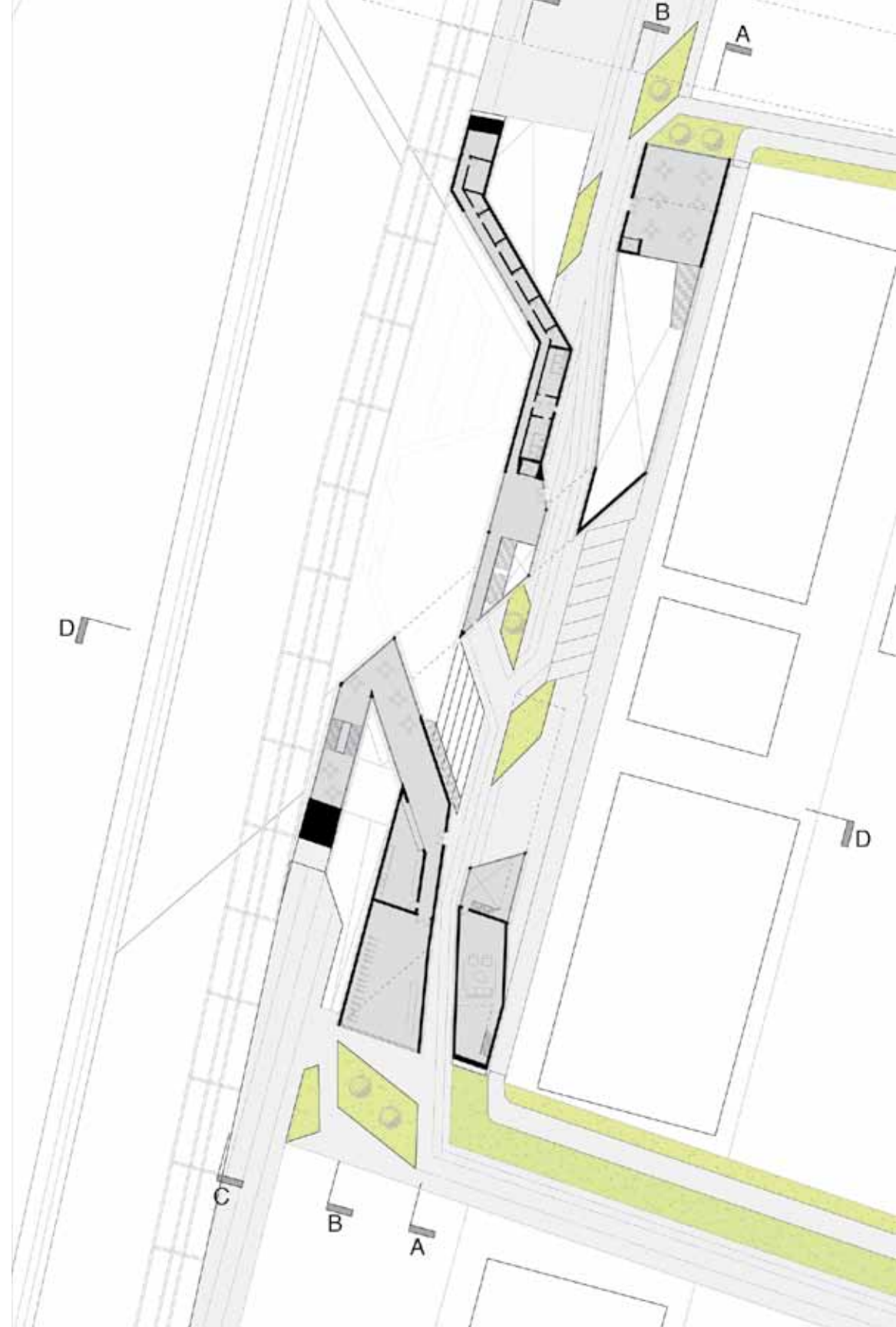
Originally part of an alluvial plain, the Los Angeles River has a strongly charged history with water rights and safety within our city. Due to catastrophic flooding that plagued the city until the late 1930s, the water bed has since then been restricted to a no-man's land of concrete channels and aqueduct systems. Recently, the Ad Hoc River Committee has embarked on improving the watershed through its initiative called the Los Angeles River Revitalization Master Plan (adopted by the city in 2007). This plan will attempt to slow down the physical flow of water, expand overflow storage capacities through reservoirs/run-off catchments and allow communities to re-engage with the recently unstratified river. Most notably, this 20-year plan for revamping the now concrete encased riverbed will allow neighborhoods and local communities additional recreation spaces and places for collective gathering.

In this light, the buildings designed in this studio were regarded as part of a larger urban infrastructure, a collective of sorts. The site(s) will be located downtown along the riverfront, most likely where larger outdoor parks and spaces do not currently exist. The building was meant to act as a support system for this massive overhaul, enabling both the social and physical vitality of foreseen conditions.

Attempting to act as a catalyst, these buildings were designed as nodal community spaces. Each building accommodated the following: storage for a riverfront bike-share program, open exhibition spaces for temporary art installations and live-work loft spaces for a downtown artist-in-residency program. These nodal buildings along the planned parkway will simultaneously serve as additional amenities to proposed sports fields, pocket parks and water remediation lands.



BOTH PAGES: SERI HEATT



ARCH 402. OUT OF [THE] WATER

INSTRUCTOR: Roland Wahlroos-Ritter

"The word 'studio' is derived from 'study'. Our object is not to know the answers before we do the work. It's to know them after we do it." -Bruce Mau

According to the UN, since 2007 more than half of the world's population is now living in cities and in 2050 more than 75 % or 8 billion people will be city dwellers. Tokyo is momentarily the largest metropolis with a population of 35 million people. China is leading the trend with 55 of the 150 fastest growing cities worldwide. The dense urban centers, contrary to the belief of many, on the one hand are the most sustainable form of inhabitation but they also bring along a manifold of problems. The metropolitan area of Los Angeles consumes a staggering 1,768,719,228 gallons of water per day. With the expansion of arid zones, increased periods of drought, water scarcity becomes a significant problem for the future of metropolitan centers especially in arid zones.

In the first four weeks the studio researched, investigated and documented water consumption tactics. The research formed the basis for the studio's design investigations in which the students produced speculative proposals for new building typologies that address issues of water consumption and conservation. Our investigations concentrated on typologies of the working environment ranging from office buildings to urban micro industries in Downtown Los Angeles.

The studio offered a critical alternative to conventional models of architectural investigation and will worked exclusively with physical matter and models. Orthographic projection as a generative design mode was completely suspended during the studio and the studio described form, tectonics and structural morphologies with an assemblage of physical and digital storyboards that narrate performative qualities.



MONICA HEIMAN



TIFFANY CHEN



MONICA HEIMAN

ARCH 402. LA DNA

INSTRUCTOR: Christopher Warren

“Every building has its own DNA. You have to find the character...buildings are different each time and more related to the cultural, economic and social context.” - Jean Nouvel

The homogeneity produced by globalism, particularly in the areas of product-based and building design, has begun to erase traditional notions of identity. New examples of “the vernacular” are rare, and it can be argued that with the evolution of a global culture, the definition of context has forever been altered. Sensorial and tangible contextual qualities such as materiality, scale and style now hold less importance in the global purview. Contextualism has been transformed (or omitted altogether) and thus, so has a basis for identity.

Through analyses of seemingly intangible systems such as program, narrative, operation, culture, iconography, image, economy, politics, social strata, etc. and their relation to Los Angeles, students defined a set of contextual ideas and then applied these new architectural building blocks to a general location in Long Beach. Through an open process, the exploration manifested in the form of a new master plan for the Long Beach waterfront which included a Port Terminal with berths for three cruise ships and the relocation of the Queen Mary.



BOTH PAGES: EVAN SHIEH



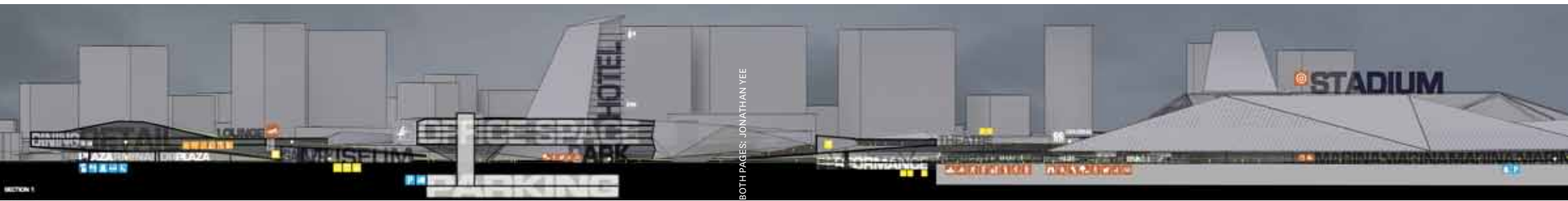
ARCH 402.

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- A. CRUISE TERMINAL
- B. BOUTIQUE
- C. HOTEL
- D. OFFICE
- E. MUSEUM/GALLERY
- F. CRUISE LOADING ZONE
- G. TOWN HOME RESIDENTIAL
- H. BOARDWALK
- I. PLAZA
- J. RECREATION PARK
- K. MARKETPLACE
- L. RETAIL MALL
- M. PERFORMANCE HALL
- N. THEATRE
- O. APARTMENT HOUSING
- P. CONDOMINIUM
- Q. MARINA
- R. PAVILION PARK
- S. LOUNGE PARK
- T. FOOTBALL STADIUM
- U. PUBLIC POOL
- V. STROLLING PARK

S.2

1" = 100'



ARCH 402. US DEPARTMENT OF ENERGY SOLAR DECATHLON

INSTRUCTOR: Mario Cipresso

In early 2012, USC was awarded one of 20 prestigious grants to participate in the US Department of Energy's (DOE) Solar Decathlon 2013. The 2013 competition will be held at the Great Park in Orange County in October; this will be the first time that the Decathlon takes place outside of Washington, DC.

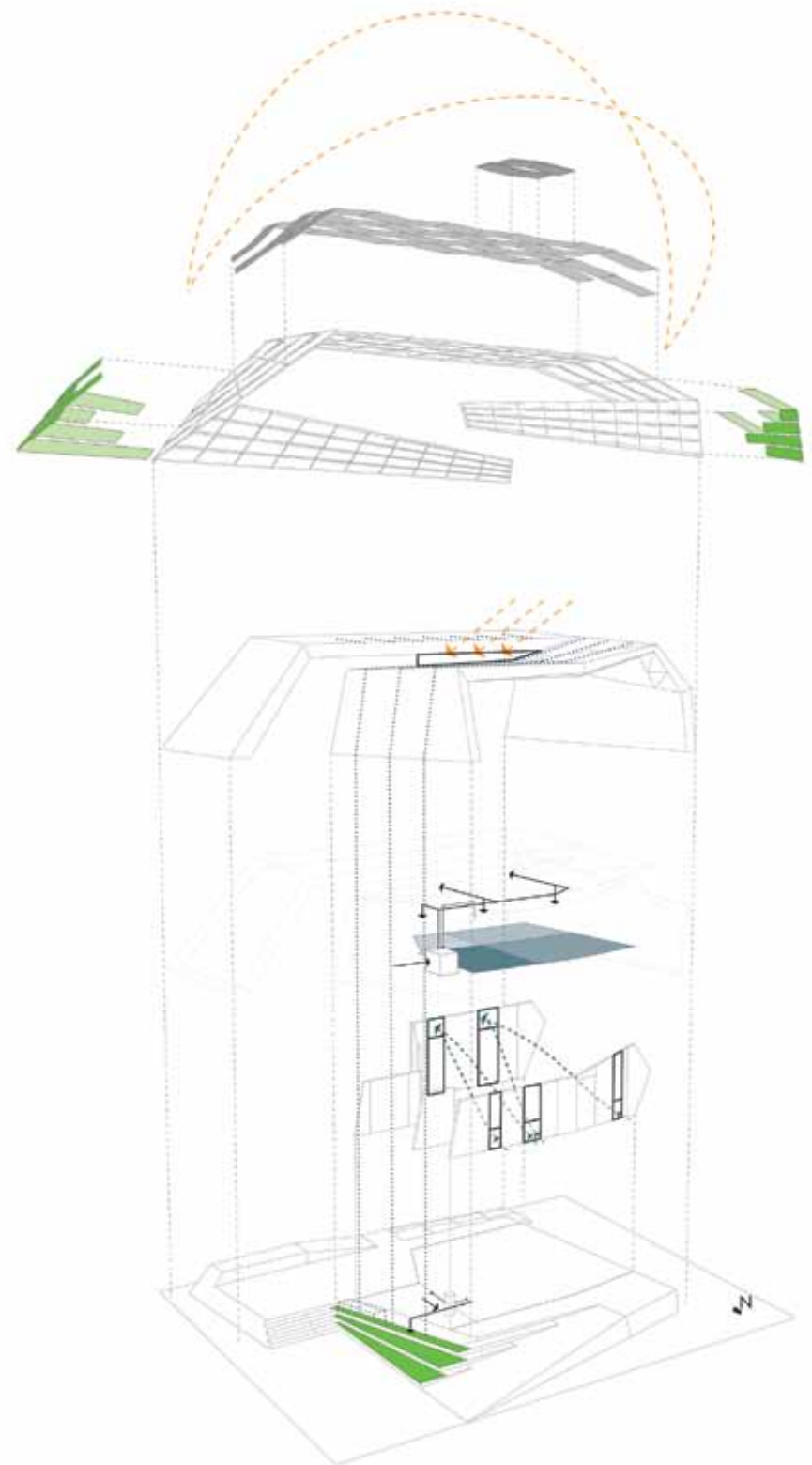
The DOE's Solar Decathlon is a biennial award-winning program that challenges collegiate teams to design, build, and operate solar-powered houses that are cost-effective, energy-efficient, and attractive. The winner of the competition is the team that best blends affordability, consumer appeal, comfort, excellence in design and engineering with optimal energy production and maximum efficiency.

In its application, USC raised the bar by challenging the typologies of the typical finalist house designs. The vast majority of entries into the Solar Decathlon competition assume the form of a bungalow or box for various reasons. Our application proposed that through the implementation of advanced digital design tools and cutting-edge engineering strategies, a new form can be found that performs optimally with regards not only to energy but also in the areas of consumer appeal and comfort. To this end the studio cultivated and fostered a spirit of inventiveness and experimentation.

The primary goal of the studio was to define and develop a series of house concepts investigating alternative strategies and systems founded on an initial research phase. Each concept varies in its area of focus and detailed development. After a series of early form-finding exercises completed individually, students worked in teams in an effort to reflect the immense collaborative undertaking that lay before them.



BOTH PAGES: CANDACE WONG



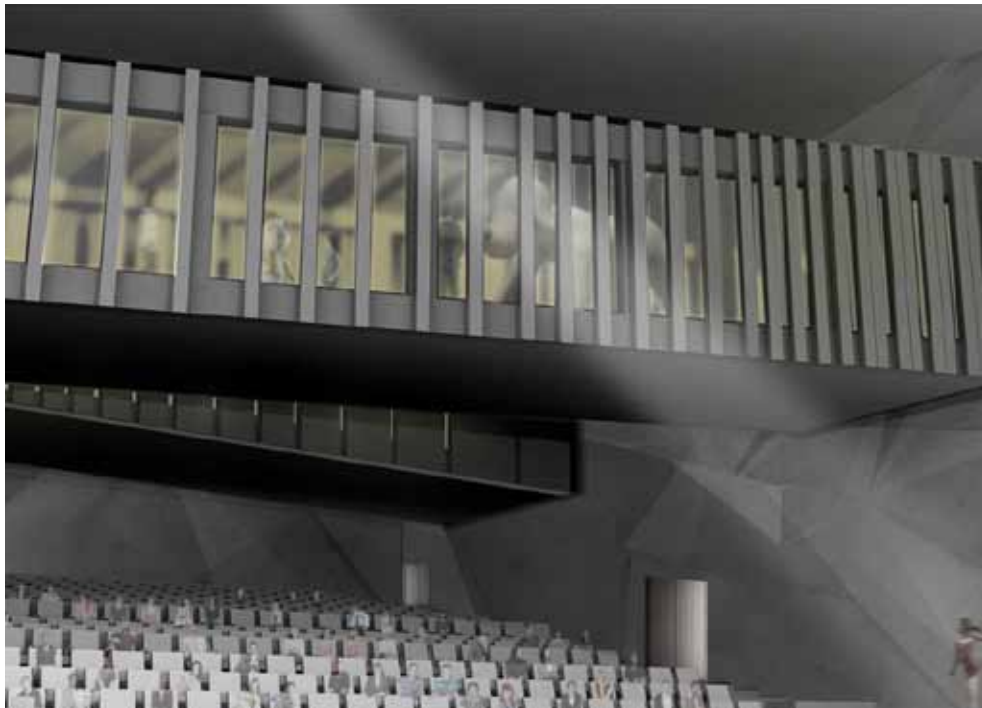
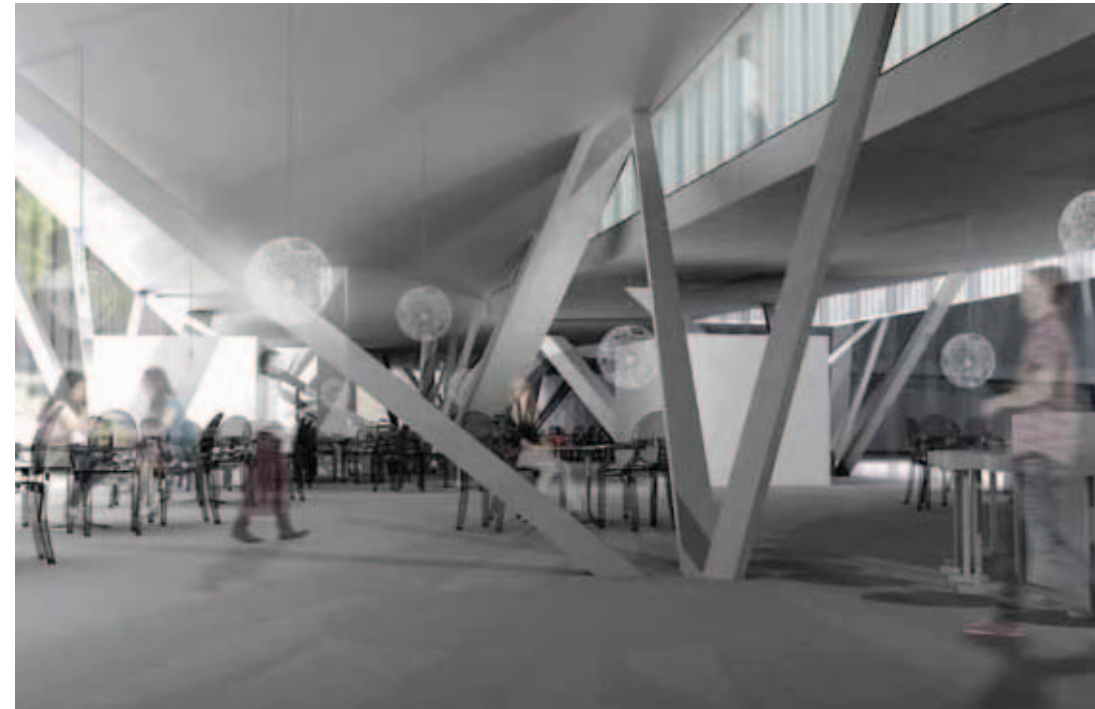
ARCH 402. CENTER FOR PERFORMANCE / PERFORMING ART

INSTRUCTOR: Frank Escher

Los Angeles has a tradition of cultural experimentation. From this emerges an internationally important contemporary art scene sustained in equal measure by museums with contemporary art programs, significant art galleries, and influential local art schools. Further, Los Angeles has an interesting history in 20th and 21st century experimental music: significant musicians had and continue to have important connections to this city.

The project, a center for contemporary performance art and performing art, examined the intersections between two cultural worlds, the visual and the musical. The site was the parking lot to the north of MOCA/Geffen at the eastern edge of downtown, an area where the histories of ethnic and cultural groups settling in Los Angeles intersects with the history of land use.

The needs of two user groups were examined and addressed: the newly formed contemporary opera company of Los Angeles, “The Industry”; and MOCA (The Museum of Contemporary Art), which currently has no space suited for performance of any kind at a larger scale. In a process coming as close as possible to interacting with a client, the students met at the onset of the term with Philipp Kaiser, Senior Curator at MOCA, and Yuval Sharon, founder and artistic director of “The Industry” to finalize the spatial and intellectual programs of their projects. The students developed spaces for thinking, making and performing and further addressed issues such as the relationships of contemporary visual and music culture to architecture.



BOTH PAGES: MINTRA MANEERPAIROJ



ARCH 402. HYBRID HIGH SCHOOL

INSTRUCTOR: Chuck Lagreco

INTENTION: this topic studio asked each student to begin to share responsibility for the community in which we live, to consider an important community resource and the impact that might have on the development of the neighborhood around the school site, to design a facility that has the potential to change the lives of students at a critical point in their educational experience, to address a new building type by adapting an existing one to fit a new set of conditions and activities proposed for the school, and to test the impact of technology and sustainable strategies on the building design process.

VEHICLE: A research initiative headed by Professor David Dwyer of the Rossier School of Education received a charter from the LAUSD to provide an alternative educational experience that can address student needs that are not being met by current schools. Students created prototypes and a specific design solution on an existing site using the same curriculum, enrollment, and methodology, which is focused on independent student learning and student-centric scheduling and demonstrated applications of new technologies which allow for independent tracking of the progress and content of the students learning experience as well as extending the accessibility of educational resources over an extended 24/7 school day.

FORMAT: The studio approached the problem from three distinct perspectives using urban context, building / educational program, and tectonic experimentation to define the criteria for individual project proposals. Students had the opportunity to interact with educators in the testing of alternative strategies for addressing the prototype school design, using both adaptive reuse of the existing center and new facilities to accommodate the full anticipated scope of the school program and activities. Students addressed design issues from context to detail, building to furnishings, while demonstrating both structure and materiality



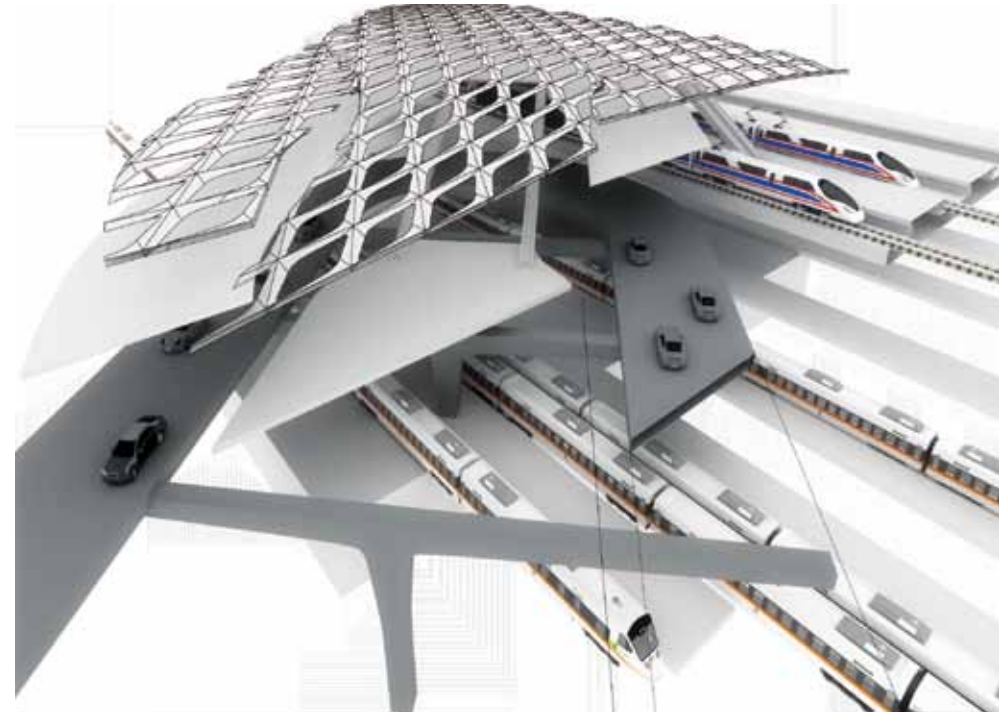
BOTH PAGES: JASN SEUNG LEE



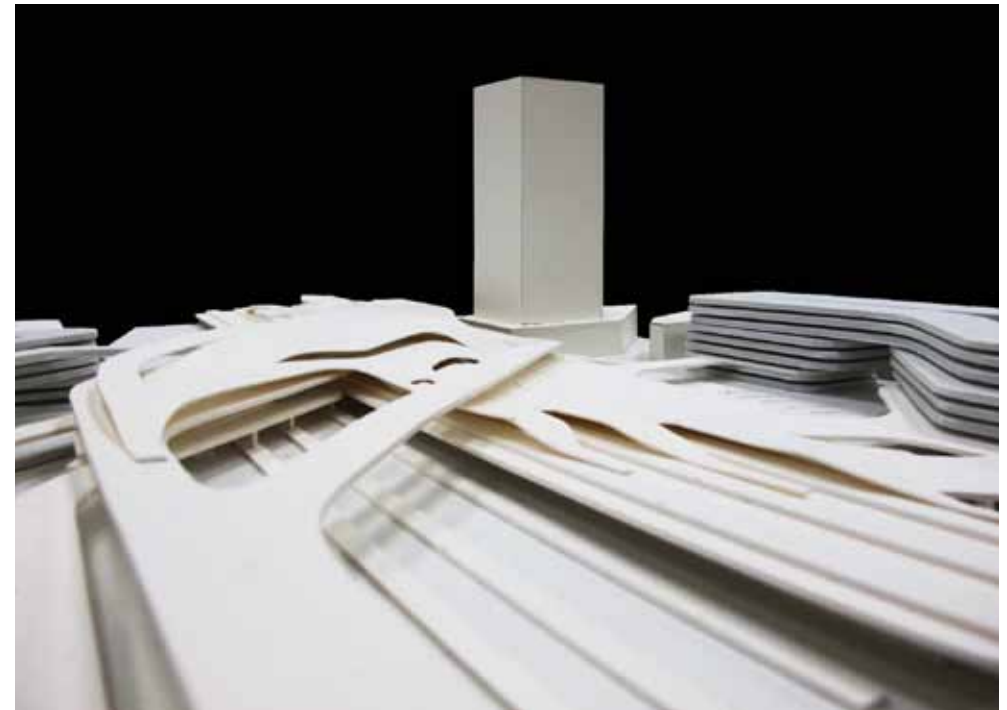
ARCH 402. TRANSPORTATION NODE AS CATALYST FOR URBAN GENERATION AND REGENERATION – LOS ANGELES HIGH SPEED RAIL STATION

INSTRUCTOR: Andrew Liang

Early forms of urban settlements developed around social and public spaces scaled for gathering and exchange in the daily lives of the people. Systems of alleys, streets and squares formed the basic movement and social infrastructure at the pedestrian scale and speed. Mechanized mass transportation introduced during the industrial revolution changed urban forms as transportation systems (rail networks being the most connective and efficient) and new typologies such as train stations were planned and integrated into urbanized environments. This resulted in the growth and densification of urban centers. As cities grew and integrated the complex and robust infrastructure, their predominantly public nature became identifiable as a new type of modern public realm. The onset of the 20th Century brought about another mobility paradigm shift, this time with emphasis on the freedom and speed of individual modes of transportation. With this new mobility paradigm, cities started to decentralize as new outskirt communities were planned and built with cars as the primary mode of movement. Many older city cores with denser, inflexible centers either stayed as the production node or experienced decay as the population moved outward to the patchwork suburbs. The morphological shift from an urban model to a suburban one is now understood as having not only degraded the quality of our larger physical environment, but is also unsustainable, less economically viable, and with increasing congestion on our road network - less efficient. The realization that cars might have outlived their validity, the repurposing of mass public transportation and California's drive to build a high-speed rail network with a major stop in Los Angeles has resuscitated the public discourse about the nature of urban life, urban regeneration, urban form/spaces and the appropriate transportation solutions in achieving them. The emphasis of the studio was to examine the role of the train station, specifically a high-speed rail station, as an urban catalyst for the generation and regeneration of urban growth and life.



BOTH PAGES: VICTOR OTTER



ARCH 402.

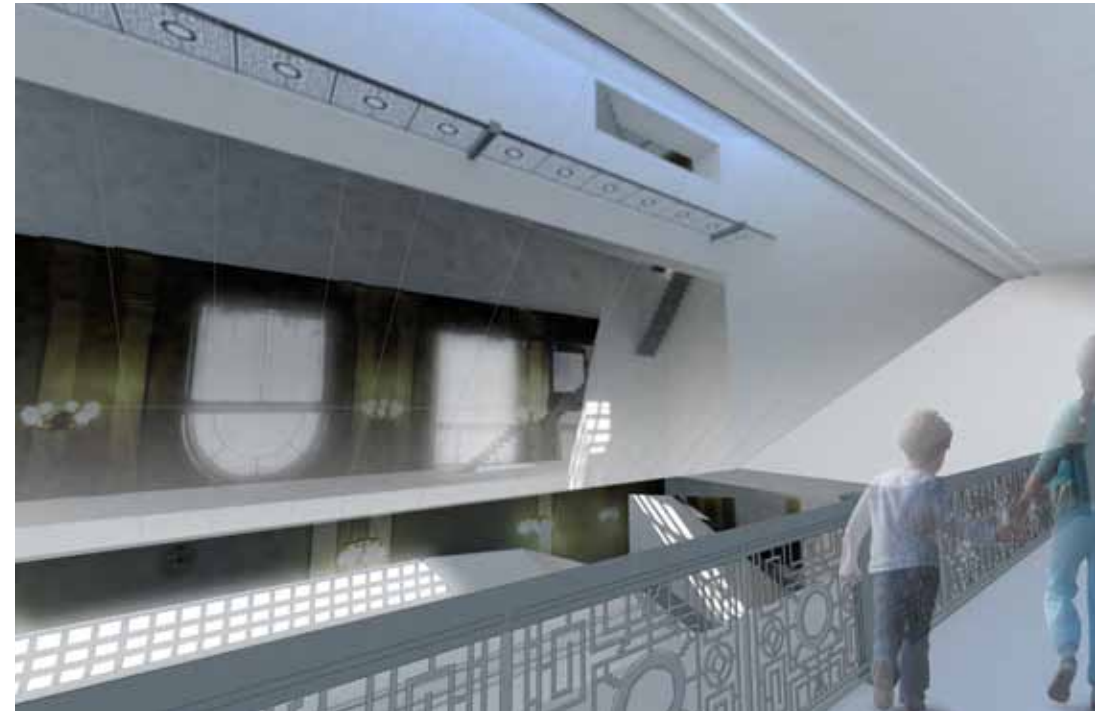


ARCH 402. PERCEPTOR

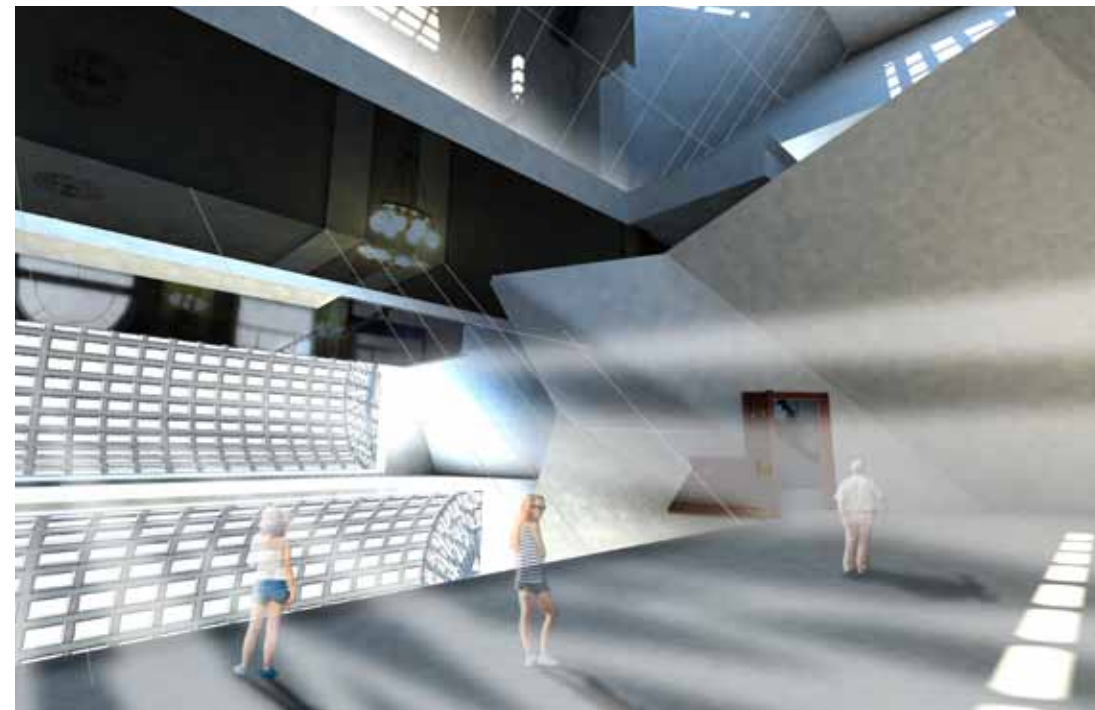
INSTRUCTOR: Rebecca Lowry

PERCEPTOR was grounded in ideas of perception and viewer engagement that have permeated contemporary art practice for the past 50 years. In this studio, students were given the opportunity to discover investigations undertaken by relevant artists and these provided a starting point for their own exploration and interpretation. Such processes of investigation lead to student awareness and strategies for future architectural endeavours. In this studio, students looked both within and without, examined human physical and psychological perception, explored the creation of highly controlled interior space, considered temporal understandings, and engaged with a complex urban condition. Running through the studio was an ongoing dialog between new and old in the sense of new intervention into old structure and new thinking questioning old conventions.

PERCEPTOR was an excursion into the undiscovered territory between expression and habitation. As in any voyage, we left behind the comforts of home, in this case, convenient labels such as: art/architecture, high/low, new/old, science/art, entertainment/culture in favor of open ideas such as engagement and reconsideration. We created new concepts: hybrid constructs without easy names to define them. Our focus was on perception, experience and awareness. Sailing such little-known waters, the onus was on us to prove the viability of our endeavor. In order to convince, our visions had to be realized with rigor and conviction. In the end, space and matter were given form by a glance.



BOTH PAGES: REBECCA GILBERT



ARCH 402. INVESTIGATING THE “MAKING” OF ARCHITECTURE AND PUBLIC PLACE

INSTRUCTOR: Graeme M. Morland

The historic evolution and growth of many major cities like Los Angeles derive their success from transport systems which provide the primary means of communication, accessibility and mobility. The LA basin, (500+/-sq miles) epitomizes the 21st century manifestation of this with the emergence of enormous “rivers” of concrete enabling the vital circulation system which now exists within the urban arena. With the increase in size and magnitude of the Los Angeles freeway & tertiary road network coupled with institutions of commerce & industry has come the inevitable fragmentation and gentrification of historic urban communities and neighborhoods all separated by these great incisors of development. At a time when “total” transit systems are being realized as paramount to the success of the city, it is now essential to create networks of connections between the systems.

Mixed use programs were designed for each site, focusing on housing and community facilities. Each of the stations will serve as significant community “Gateways”, acknowledging and respecting the history and culture of each location. Each station site / location has determined, specific program opportunities, following student analysis and meetings with community leaders and representatives from the MTA in collaboration with the Mayor’s office of transportation who supported this study. Students then developed various individual design projects from within a larger general proposal.



BOTH PAGES: LORI CHEN



ARCH 402. POLYVALENCE, LACMA VISITING ARTIST RESIDENCE

INSTRUCTOR: Olivier Tournaine

A possible consequence of the so called “economic recession” that we are currently enduring may result in a total reshaping of the architectural profession as well as its academic and educational process. The time for a more realistic, optimal, minimal architecture has come, one based on the precepts of modernity and sustainability, that addresses the reality of building methodology and technologies, optimization of means of construction, and energy use from day one all the way to the “re-processing” of these building components. This architecture requires Darwinian skills. It has to be a flexible solution, possibly offering other use for the building in future times, use for which we have no idea today of what it may be. Already in Japan and Europe, the construction cost, which now has to include the whole life span and recycling of a building generates a new kind of architecture, an architecture that is reusing existing structure more often and is forecasting a longer life for the building by allowing potential alternate uses in the short or long-term future.

This topic studio was exploring the development of a small/medium scale project throughout the semester. The selected site was a “real” site so to speak with a “real” client. LACMA, the Los Angeles County Museum of Art is in perpetual development. Recently, it bought a property south of Wilshire Boulevard. A building was demolished to create a well-needed temporary parking space; this was just a temporary solution for this strategic site. Part of this property, just on the other side of the street between Ogden Drive and Genesee Avenue, is a corner lot that LACMA intends to develop as a residence for visiting artists. This was a real project with a real schedule. LACMA staff members were involved in key reviews. The building offered an atelier / exhibition space area as well as a residence for the usually internationally renowned young artist. The space had to be flexible for various uses: art production, exhibition, performances etc. Some programmatic freedom was allowed so each student could develop her or his own strategy in terms of polyvalence and flexibility.



The background image is a seascape under a dramatic, cloudy sky. A red balloon floats on the left side. In the distance, a large white structure, possibly a bridge or a large ship, is visible on the water. A blimp or airship is flying on the right side. The overall mood is surreal and atmospheric.

UNDERGRADUATE 5TH YEAR STUDIOS

IN-DEPTH THEORETICAL STUDIES WITH A RIGOROUS PROCESS OF DESIGN

5TH YEAR STUDIOS

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The variety of themes offered for the 5th year studio of the B.Arch. program is indicative of the diverse interests of the student body. Rather than topic-based, the ARCH502 studios were oriented around themes determined by each faculty member. Ranging in scale from innovating small products to rethinking urban centers, the studios required students to incorporate in-depth theoretical studies with a rigorous process of design, which ultimately culminated in a comprehensive design project representative of each student's education at USC.

Students selected their one-year course of study beginning with a theory seminar in the fall followed with a design studio in the spring. The weekly discussions and readings in the seminar eventually influenced the content of each student's research papers, which, in turn became the theoretical foundations to their studio design projects in the spring. The application of this research method ranged from large-scale urban projects down to the very detailed development. Students chose to either test new or innovative methods of design or investigate familiar ideas in great depth. Studying generative form-making, performative design principles, futuristic programs/cultures, anticipated effects of climate change, energy-efficient building strategies and intelligent design systems blanketed many of the studios as well as the discourse of architecture. With the aid of individual feedback from structural, MEP, sustainability and facade consultants from Arup/Los Angeles, each student developed their own project from concept to product, developing numerous diagrams, imagery, models and details. The results, in both depth and breadth, displayed the robustness of the overall program.

Doris Sung,
5th Year Studio Coordinator

ARCH 502. POWER IN NUMBERS: PERFORMATIVE RETAIL URBANISM IN CHINA

INSTRUCTOR: Alvin Huang

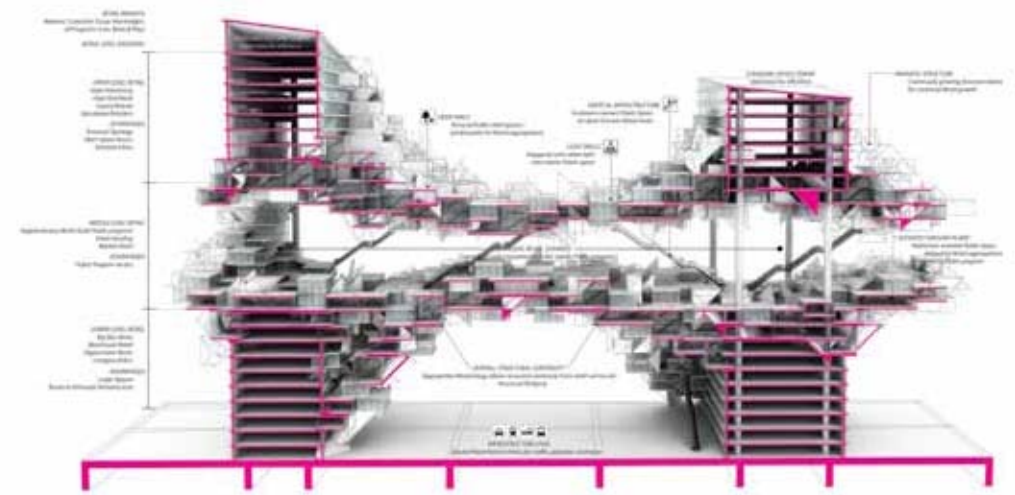
Our studio had 12 students each exploring a parcel of the Shanghai Expo site to collectively propose a new form of urban condition within the context of Shanghai's massive urban fabric. Other than the site itself, the students each proposed their own programs for occupying the site.

The scope of investigation explored in our studio focused on the convergence of three primary topics as the catalysts for their studies:

Students were asked to consider the site as a field condition where physical, social, and economic forces produced various intensities, gradients, and differentiations which highlighted the site as a continuously changing condition rather than one described by singularities and uniformities.

Students were challenged to constrain the formal and performative genesis of their projects to the geometric, operational, or material logic of an adaptable geometric system. This system was intended to both adapt to and articulate variable conditions, scales, and configurations, and thus informed the organization of the project at all scales. This geometric system considered buildings as members and nodes within a larger geometric or structural system.

Students were asked to challenge the existing typology for large-scale mixed use retail projects currently employed in the Far East. Students are asked to consider the socio/political/economic conditions of contemporary China and identify trends within contemporary retail evolution to consider proposals which sought to forecast an alternate urban condition.



BOTH PAGES: EVAN SHIEH



ARCH 502. THE PARADOX OF DEUS EX MACHINA

INSTRUCTOR: Kris Mun

In the era of technological feat, it appears that contemporary exploits and tendencies in creative disciplines are encased in science fiction. Traditionally, science fiction was written and developed by artists aimed to *invent* new possible worlds and scientists were working to create such visions. But now, (computer) scientists are creating the possibilities of the new world, and artists are catching up to science. Science fiction is the new critical theory (Thacker). The world of technology territorializes our environment creating inevitable shifts in our stances, upturning our ecology of politics, money, constructability, and livability. Working with Warner Bros., the students created their own narratives, utilizing concepts of swarms, bio-politics and bio-technology to invent a product(ion) of architecture. They were asked to take any (superhero) Warner Bros film, use the main character as their client, and extract out the technologies engaged in the film as the conceptual basis to envision a new possible world. From 20 to 4000 years into the future, colonization of cities by new robotic species, habitats that read emotions, micro-agents that construct buildings, for example, were scenarios created to critically, imaginatively, experimentally and *affectually*, express a machine-to-man relationship – a question that has been around for centuries since the invention of the *automata* in the 15th century. Throughout the term, the students progressed by leaps and bounds into different realms of integrated software to create their worlds presented in a cinematic tone of animation.



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ARCH 502. URBAN TRANSIT MINING: TRANSFORMING TRANSIT HUBS

INSTRUCTOR: Lorcan O'Herlihy

Building upon the knowledge acquired during the previous semester's Degree Seminar, students were asked to develop an architectural construct consisting of a hybrid transit hub to augment a number of transit stations both locally and abroad.

The Degree Seminar, which included intensive exploratory research, readings, guest lecturers and studio discussions, was aimed at positioning students with sufficient knowledge from which they are able to address critical issues in the 502 Comprehensive Studio. Throughout the semester, students were also encouraged to familiarize themselves with historical precedents relating to urban and social connectivity models and contemporary strategies being employed today.

Continuing the exploration through rigorous research agendas carried out using field studies and incorporating knowledge received from specialist consultancies, the objective of this studio assignment was to identify the critical role of design as an agent in engaging and fostering human interaction in relation to behavioral and social connectivity to the community. While acknowledging complexity inherent with the continued evolution of contemporary technologies, transportation and communication capabilities, students were expected to analyze how transit hubs can adapt formal strategies via programmatic analysis to accommodate organizational and technological advances.

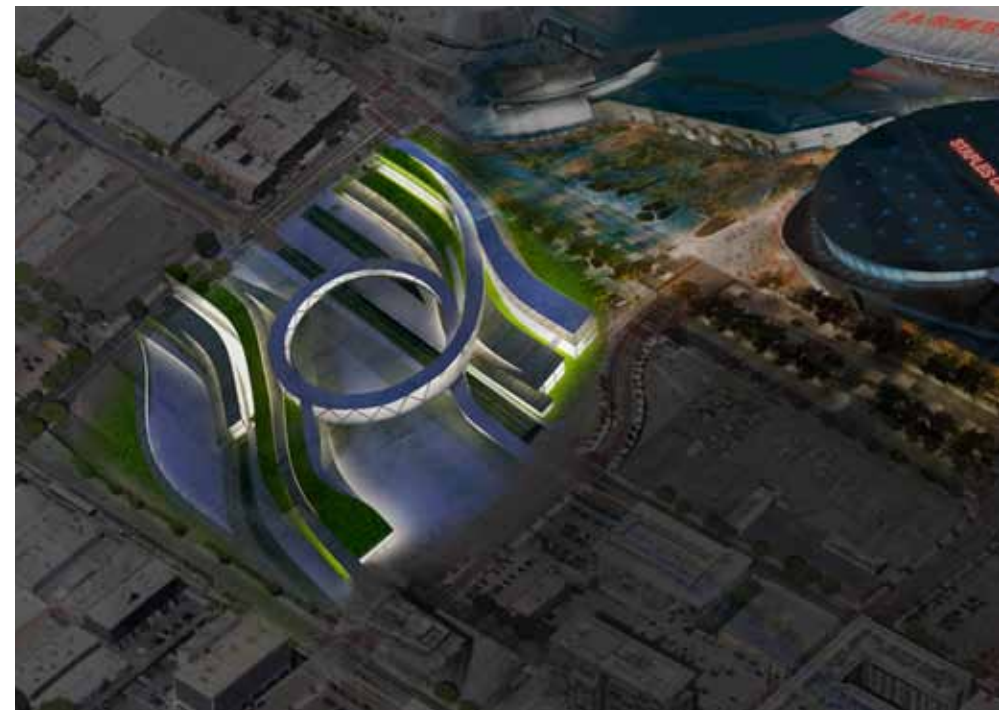
In addition to the transit facility itself, this reinterpretation of the existing model for transit stations could include, but were not limited to the following elastic program: transit rail station, public open space, retail/commercial space, and necessary support facilities.



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BOTH PAGES: TIFFANY CHEN



ARCH 502. TRUTH IN MAKING, CRAFT: AN ARCHITECTURAL INQUIRY

INSTRUCTOR: Lee Olvera

The 502 Degree Project Studio developed an individual-driven range of responsive architectures based on investigations into a variety of material processes and precedents, ranging from the boutique–artisanal to the industrial–mass-produced scale. Students conducted detailed research into a personally determined selection of designed and manufactured materials and goods, critiquing their design, their technological practices, logistical processes and their historical, technical and cultural merit. The two projects of the semester, the first object-based, the second space-based were grounded in the experiential presence of materiality and designed as catalysts for the explicit fusion of the tactile and the technological. Direct and hands-on, they confronted the parallel strands of formal, structural, spatial and functional issues inherent to all design. Exploring and implementing the concept of generative detailing, detailing through doing, the projects developed a system of working, of making, so refined and precisely informed that its language and meaning were only revealed through the physical discovery of manipulative action rather than by representational means. Detailing, conceptually and physically so correct and specific, navigated the exacting requirements of complex instructional pattern and optimum performative function with equal grace and rigor.



MICHELLE ACKERMAN

ARCH 502.



ARCH 502. THE CRIMINAL TYPE

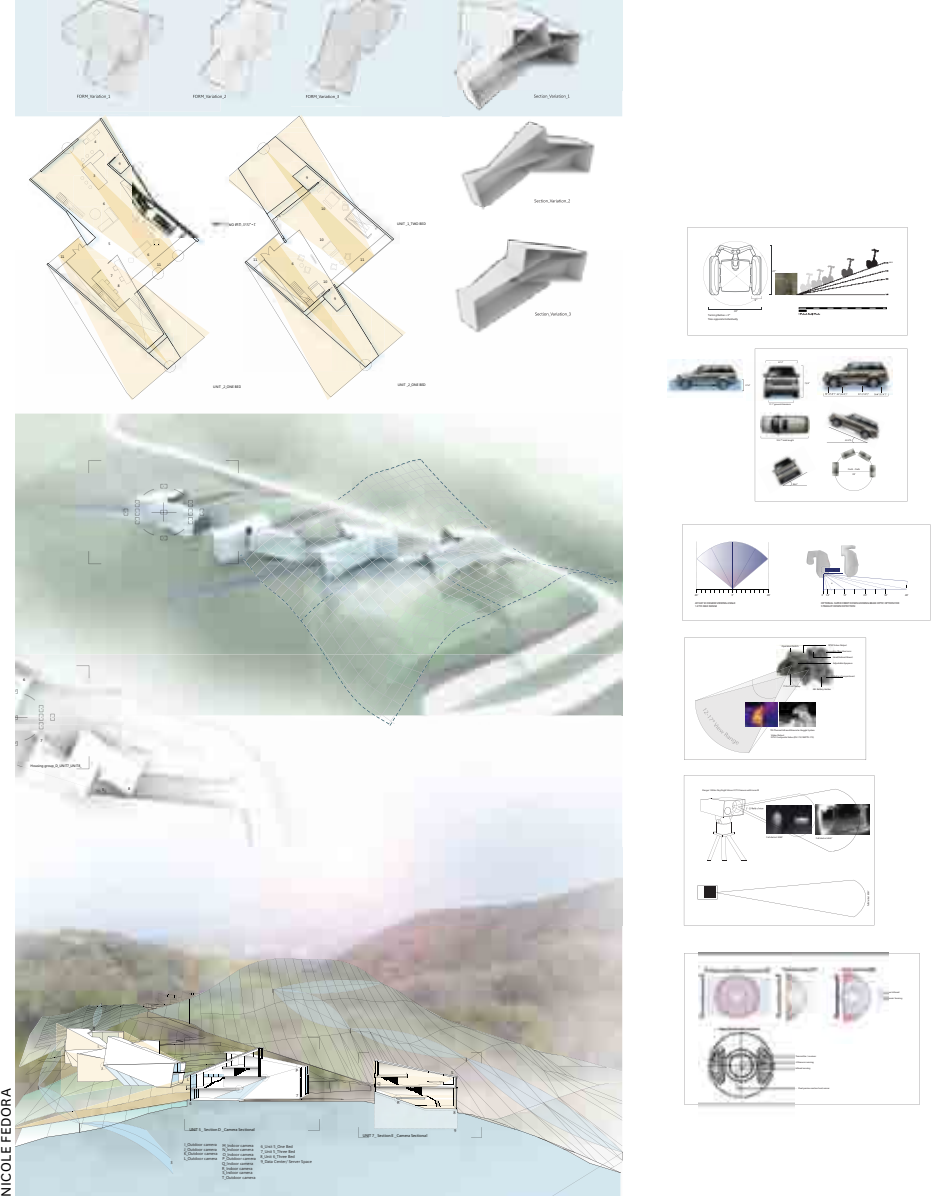
INSTRUCTOR: Marcos Sanchez

Architecture has long negotiated an ambiguous and fascinating relationship with crime. From the anti-revolutionary utility of Georges-Eugène Haussmann's boulevards and J.N.L. Durand's spatial classification of prison inmates to Adolf Loos's famous argument linking degeneracy, murderers, and the architectural surface in *Ornament and Crime* (1908), the scientific study and control of criminality was fundamental to constructing both modern life and its architecture. The contemporary city, accompanied by expanding technologies of surveillance, generates similarly intricate links between architecture and social order. One of the most visible manifestations of contemporary law enforcement, the police helicopter with its brilliant spotlight, is ideally suited to the city's flat expanse; its circling flight pattern is now as familiar to Southern Californians as the security perimeter of a gated community. Complicating matters, crime deterrence has increasingly merged with anti-terrorism in the decade since the 9/11 attacks, setting the scene for increasingly complex liaisons between architecture and city power; in recent years the LAPD has become a test client for the "Trapwire" video monitoring database and LAX now generates biometric data and the ghostly images of full body scans. If these examples indicate new architectures of control, they also imply the presence of blind spots and loopholes. In these legal gray areas, the struggle for control of city space continues, and ambiguities in law enforcement systems become opportunities for the aberrant architectures of marijuana dispensaries, white-collar crime and the ingeniously designed getaway.

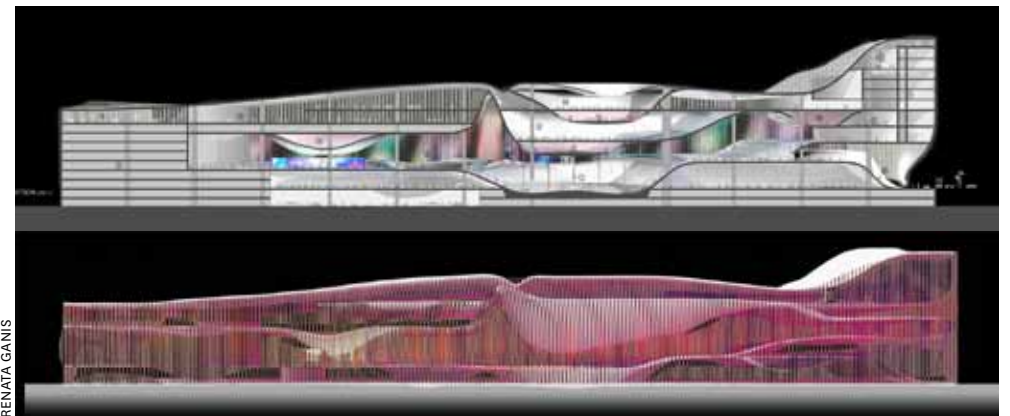
Students began by examining various architectural manifestations of electronic surveillance and tracking systems to identify redundancies and gaps. The studio then split into three briefs of varying orientation to urban security: a Native American casino, research facilities for the RAND Corporation and a new administrative headquarters for the Port of Los Angeles.



RENATA GANIS



NICOLE FEDORA



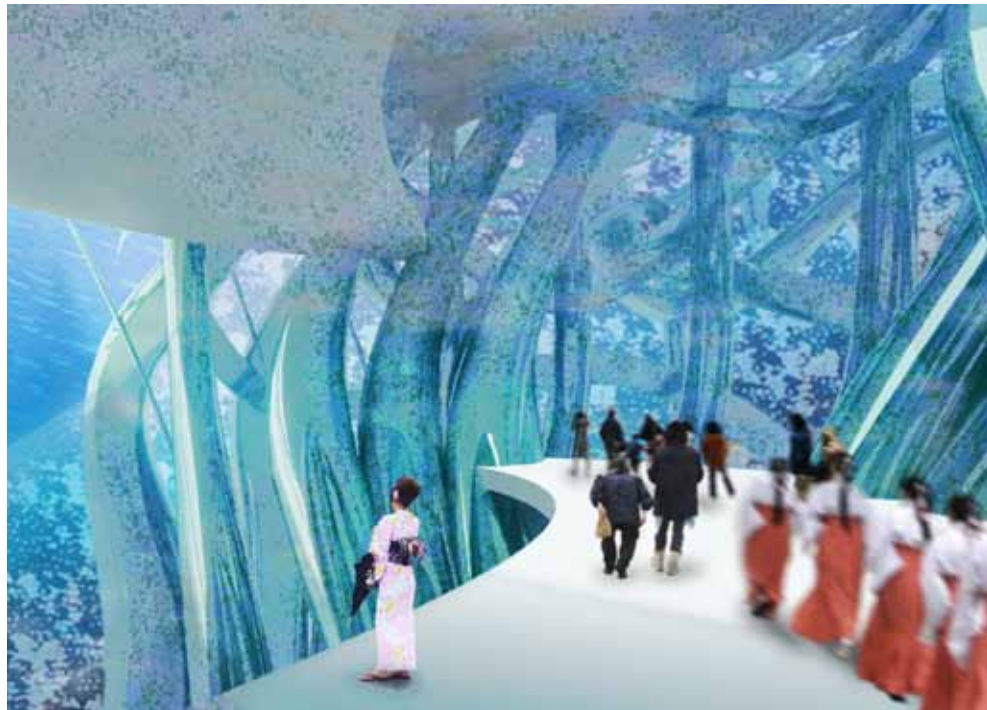
RENATA GANIS

ARCH 502. YOU ARE HERE 1909-2109 FUTURISM, MOBILITY, PREFABRICATION, EXTREME MATERIALS AND DIGITAL FABRICATION

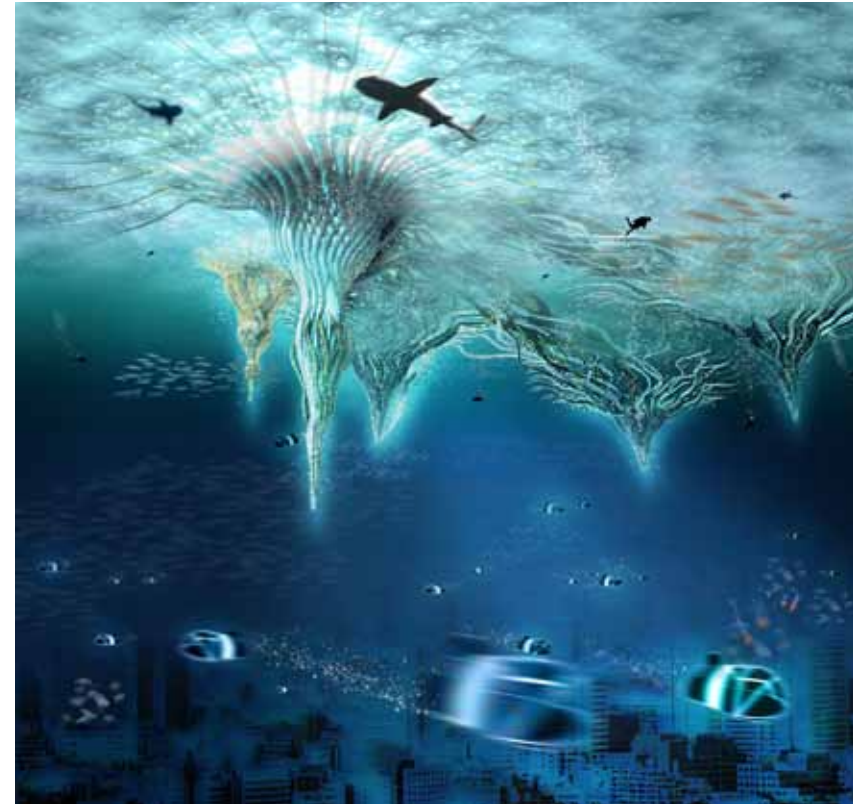
INSTRUCTOR: Jennifer Siegal

The information age whets our appetite for the exploration of the unknown. As inquisitive social beings and innate explorers of the universe, we are standing at a new threshold of curiosity and movement. More than idea sharing over vast distances, we are poised to physically actualize these explorations. Biological and technological advancements reveal themselves in our everyday lives, echoing prophecies and environmental visions from American pulp science fiction. Architecture today rolls, flows, inflates, breathes, expands, multiplies, and contracts, finally hoisting itself up, as Archigram predicted in the early 1960s, to go in search of its next user.

This desire to create increasing degrees of flexibility and adaptability to a changing environment has shifted the way architects think and design buildings. With constant technological advances, the emergence of new materials and manufacturing technologies has created opportunities in fresh territories. The exploration is not simply limited to the formal and tectonic qualities of 'virtual' architecture, but focused on the creation of smarter and highly performative environments around these new technologies and materials. The merging of long separated manufacturing and building industries allow the architect to rethink the design process and the performance abilities of these tools. As a result of these new manufacturing options, there are more opportunities for architects to become innovators operating on multiple platforms. This studio took advantage of such opportunities by exploring issues of architectural mobility and portability alongside developments in materials and fabrication. The end result was a design for the future city.



BOTH PAGES: FIONA SIU



ARCH 502. SLEEPING WITH THE ENEMY: THE CONJUGAL LIMITS OF ARCHITECTURE, CLIMATE AND WATER

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INDEPENDENT DEGREE PROJECT ADVISOR: Doris Sung. **STUDENT:** Alice Chen

The term performative has become the catchall phrase in architecture that, like the word sustainability, reflects the current cultural interest of comprehensiveness and, as a result, is hard to define singularly or precisely. Branko Kolarevic talked about performance in architecture as a “comprehensive approach to design,” placing it above form-making as a design principle. It is the shift of interest to things mutable and transient, not static and fixed. In some ways, it is a temporal condition where contexts and fields continually affect the equilibrium of the organism or architecture. It can be applied to how a people occupy buildings, how parts of buildings go together in the balancing of systems, how generative rules or forms of algorithms influence values and parameters, or how interactive materials and systems respond to outside influences.

In order to keep the topic relevant, the studio followed the ACSA student competition brief focused on sustainability. Located on a 96-acre site on the north central coast of St. Croix, U.S. Virgin Islands, students had to design a marine research and education center and contend with climatic change due to global warming such as increasing winds, rising temperatures, changing humidity, rising sea-levels and acidification of the waters, as well as issues of limited access to fresh water. Taking advantage of these changes and harnessing them into architecture challenged the idea of performance in architecture and speculates on the potential tectonics, programs and future for these near-future conditions as we seek solutions for zero-energy consumption and no-waste living.

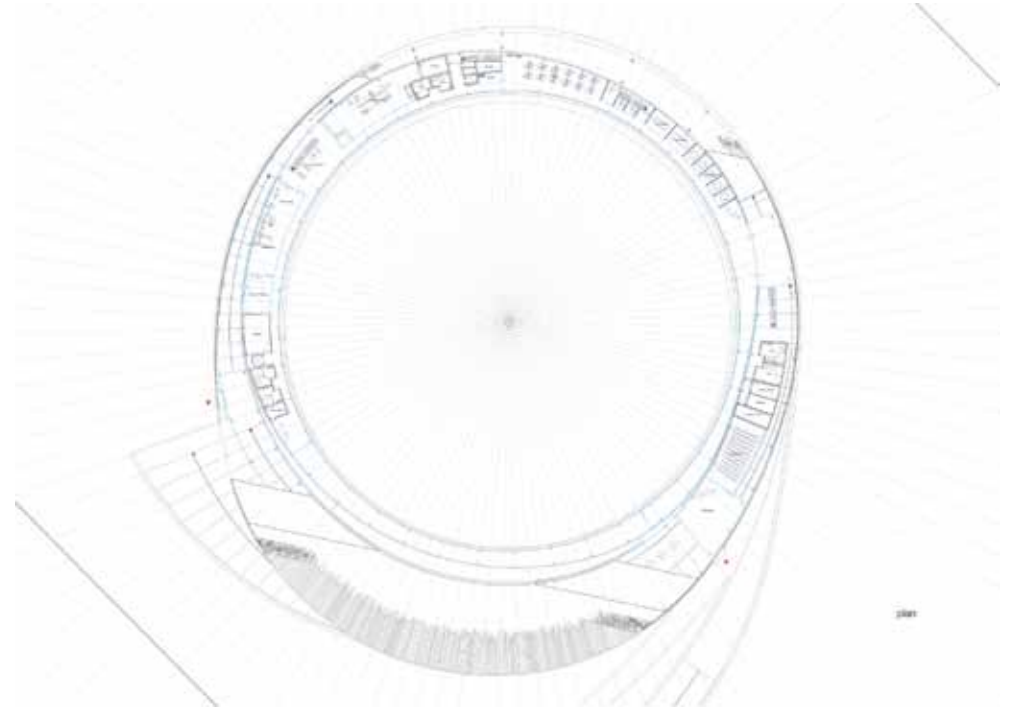


ARCH 502. HOW TO MAKE... ARCHITECTURE IN 6 EASY STEPS

INDEPENDENT DEGREE PROJECT ADVISOR: Roland Wahlroos-Ritter. **STUDENT:** Yuki Hirai

The Degree-Project design studio provided the students the opportunity to explore and develop individual design methodologies within a given framework of requirements, in particular site and programmatic conditions. The emphasis of the studio was to develop a critical approach to architecture, to firmly embed studio projects within the contemporary discourse of architecture and to establish a critical cultural agenda.

The general site for the studio is the Mojave Space and Airport. And each student was given an individual site and program. Peter Cook stated once that 'Architecture is made out of stuff'. Over the course of the semester the studio confronted the notion that architecture is made out of stuff, with theoretical ambitions articulated in the seminar in the fall semester. The sites at Mojave Space and Airport provided the testing grounds and the given programs for private aerospace research and development facilities a critical reference framework. The studio proceeded to manipulated stuff with advanced technologies, confronted architectural ambitions with the iron logic of structure, the elusiveness of environmental performance and programmatic constrictions to finally arrive at a comprehensive, architectural project.



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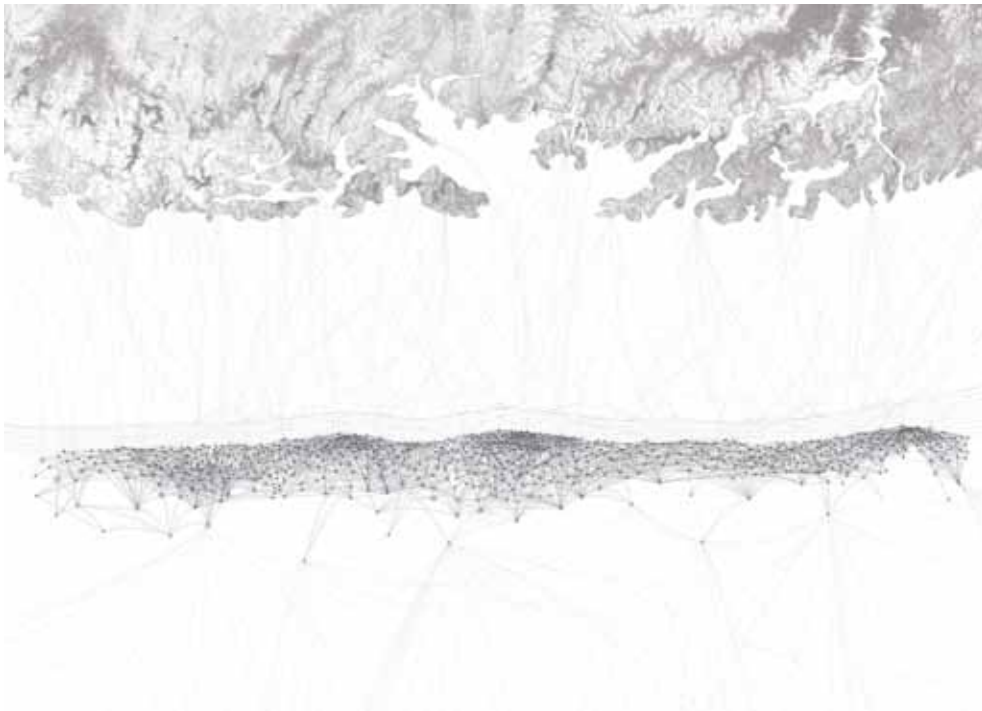
ARCH 502. EUTOPOS

INDEPENDENT DEGREE PROJECT ADVISOR: Doris Sung **STUDENT:** Taylor Cornelson

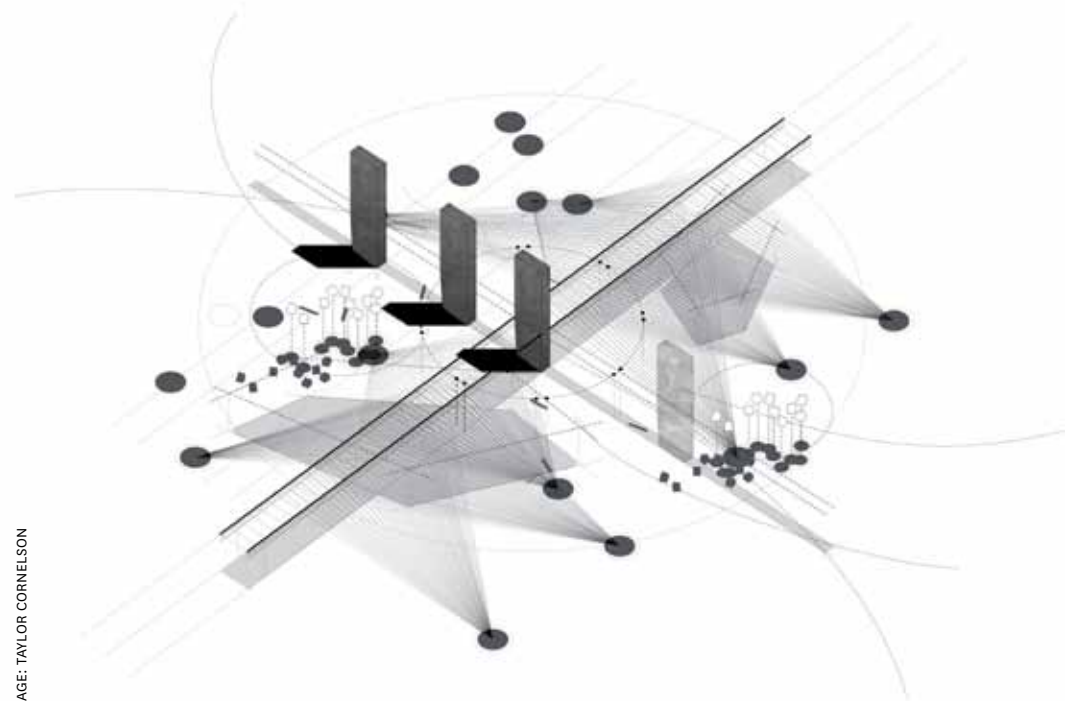
“Eutopos” located itself at the nexus of irreversible cultural and ecological change on a global scale, here is discussed as three primary axes of change: those of globalization, overpopulation and climate change. It was an examination of contemporary ideals for urban environments, their possible future in a world framed by typically “dystopian” events, and the proposition of a future “post-utopian idealism,” formed from otherwise dystopic conditions. The project thus examined these conditions and investigated how architecture, urbanism and privately-owned developments may provide a way forward in light of these cataclysmic events.

The fictional, futuristic narrative of the project hinged on a new urban development constructed in international waters, spearheaded by entrepreneur Richard Branson. Originally conceived as a means to exploit political and economic freedoms in international territory, Branson’s new paradigm of urban development would soon spark a rush of development off the coast of the world’s largest cities. Their density of metropolitan development, integration of public transportation, and environmentally sustainable design would present an intelligent alternative to sprawling, land-based metropolises. Moreover, the proliferation of these international developments — as other developers recognize the potential for success in a similar model — would come at a critical time for nations world-wide.

The project itself was represented in five combinations of drawing and montage, representing five stages of development. Presented in chronological order, it detailed architectural elements ranging from those to be constructed immediately (represented in tectonic detail), to those to be constructed in the distant future (represented by conceptual diagram).



TAYLOR CORNELSON



THIS PAGE: TAYLOR CORNELSON

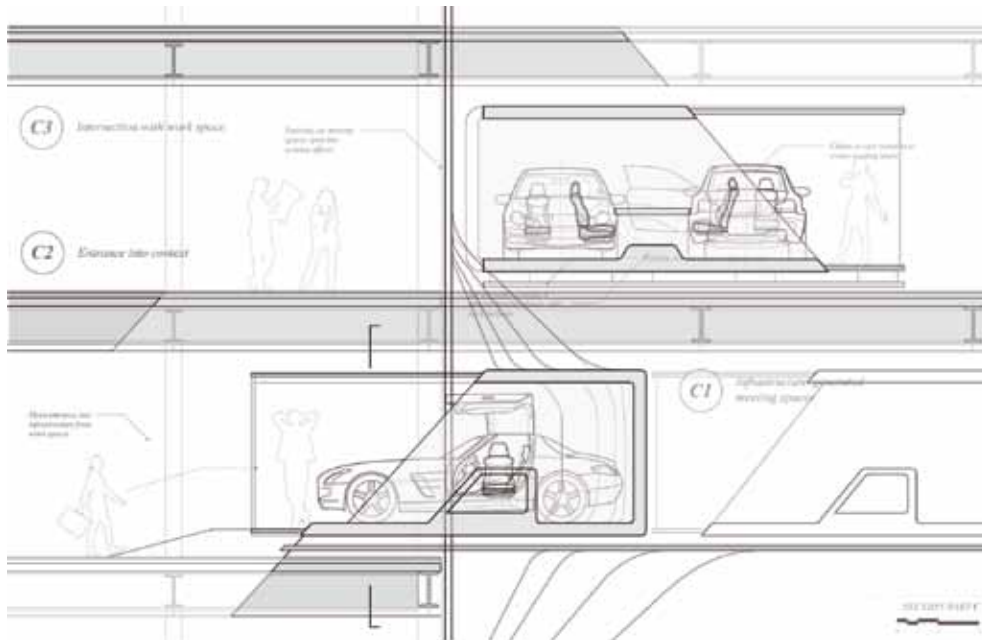
ARCH 502. EMBODYING INFRASTRUCTURE

INDEPENDENT DEGREE PROJECT ADVISOR: Doris Sung **STUDENT:** Erin Cuevas

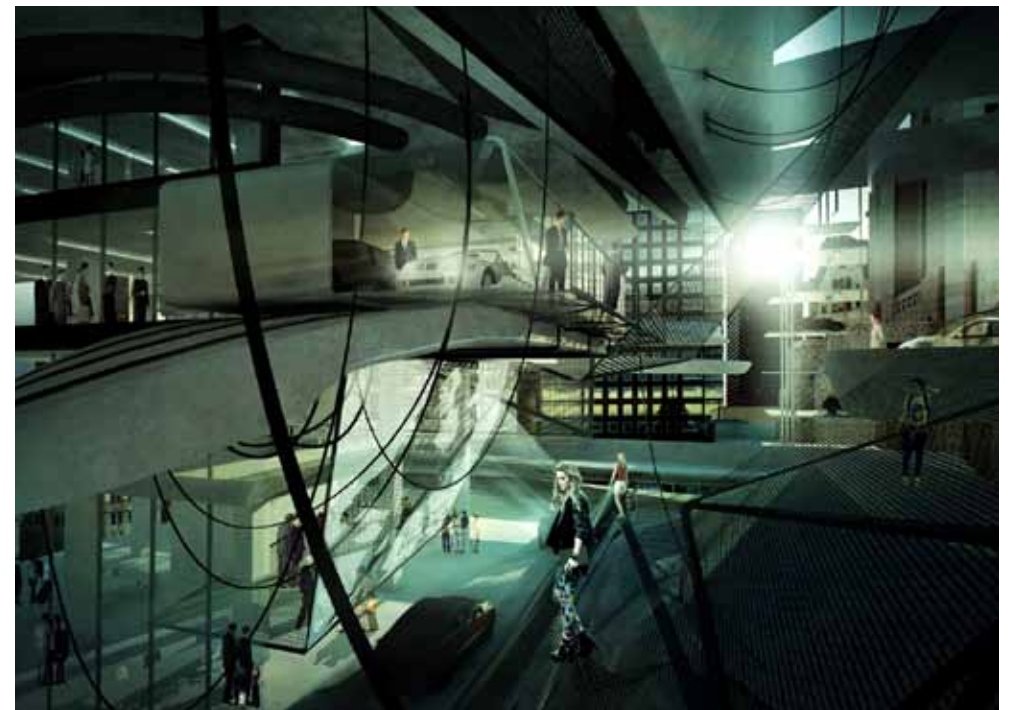
In what ways can our built world serve as an extension of our personalities and identities? The project analyzed the relationship between humans and their external environments and questions how designers can utilize this interaction to improve and personalize our cities and lifestyles. The research focused on embodiment and cybernetics, examining one primary example as a design basis: the automobile-driver relationship.

Today, drivers rely on their automotive lifestyle — working, socializing, and relaxing while in transit. While the car once served as a tool for speed, it now acts as a space of dwelling, a home, and a representation of our identities — and this has only intensified with digital advancements such as GPS, mobile devices, etc. The thesis asserted the singularity of the autonomous human and automated car, where the machine and human are perpetually interacting and dependent on one another and questioned how this singularity can be replicated between humans and architecture/urbanism. Is it possible for infrastructure to function the same way as cars — as an extension of the driver's body and identity?

The project encompassed three stages, the first being the diagrammatic analysis of the existing driver-automobile connection, studying the physical, digital and behavioral relationships in detail. The second segment consisted of experimental cut sections, each suggesting new types of infrastructure that change or emphasize the driving experience. The final set of work proposed infrastructural typologies that fit the lifestyles of different types of drivers. The system challenged how the built environment can affect the physical, programmatic and perceptual relationship between humans, cars and cities.



BOTH PAGES: ERIN CUEVAS



ARCH 502. EMBODYING INFRASTRUCTURE

INDEPENDENT DEGREE PROJECT ADVISOR: Roland Wahlroos-Ritter. **STUDENT:** David Villela

The hospital has long been plagued by its cultural impression as a cold, sterile, even hostile environment. The scientific evolution of medicine called for a transition in clinical architecture which traded experiential quality for sterility in an attempt to make the hospital a bastion of environmental control. The materials for these projects were chosen for their sanitary qualities, and consideration of their psychological impacts fell by the wayside. As research continues to reveal the intricacies of the relationship between our minds and our immune systems, one thing has been made clear: one's physical surroundings affect the way one heals.

This project sought to explore this psychological connection through the study and manipulation of concrete. A flexible form-work was undulated with minor to intense strain to produce concrete which appeared as a perforated fabric, one that allowed for views out in some areas and high degrees of surface variation in others. The resulting skin produced an introspective experience, one that turned away from the harsh desert climate and surroundings of Mojave in favor of a therapeutic environment within. Light-wells were used to penetrate the building and give natural light to the programs which need it most: the in-patient ward, waiting rooms, and pre-and post-op recovery. While light-wells acted as a positive internal force, the concrete acted as a living skin which could change in color and shadow as the day passed and reveal to patients its sensuous qualities. Private balconies provided in-patients with access to both the skin and the sky above, thereby giving those who were recovering a first-hand look at a material that was too recovering, not from disease or physical injury but from its stigma as a cold and lifeless material.



BOTH PAGES: DAVID VILLELA



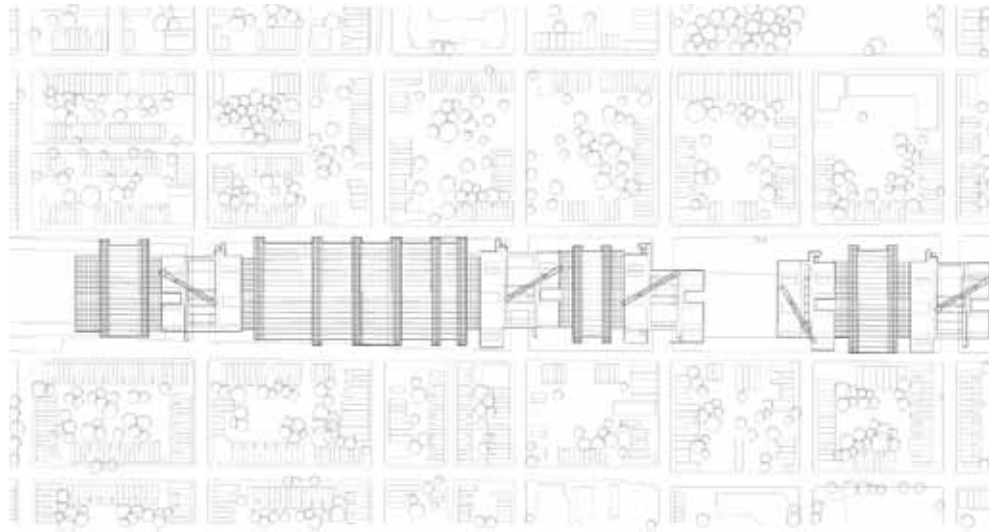
ARCH 502. HYBRIDIZING THE HYPER-GHETTO: REASSESSING BALTIMORE'S HIGHWAY TO NOWHERE

INDEPENDENT DEGREE PROJECT ADVISOR: Marcos Sanchez . **STUDENT:** Aaron J. Benjamin

For this independent degree project, I began by researching the Highway to Nowhere in Baltimore. It is a mile and a half stretch of highway right in the very heart of the city that because of a series of lawsuits and protests was never connected to the larger highway system.

A depressed highway was first proposed by Robert Moses in 1944 as part of a grand highway and urban redevelopment scheme. The project stalled, and from 1968 to 1970, Nathaniel Owings of Skidmore, Owings and Merrill headed the project. Owings proposed what we would now consider a freeway cap, including a school, shopping center, clinic, housing and a variety of other amenities. These designs were never used. The structure as it exists today was built between 1974 and 1978, after the lawsuits brought during the freeway revolts to stop it failed. However, the connecting piece was blocked and it never became a functional part of the network.

Recently there is renewed interest in the site, as the corridor for the planned Baltimore Red Line light rail project. The proposal is to fill in the ditch—at great taxpayer cost. This project proposes to do something better. The final design, entitled Feedback Infrastructure, proposed transforming the Highway to Nowhere into a production center and incubator, taking advantage of the unique characteristics of the site. Built-in mobility allows for rapid change, creating a unique urban experience. Not only can the spaces change to meet needs over the course of years, but also over the course of a few hours, changing as rapidly as the occupants desire.



BOTH PAGES: AARON J BENJAMIN



ARCH 502. URBAN AMPHETAMINE

INDEPENDENT DEGREE PROJECT ADVISOR: Alvin Huang. **STUDENT:** John Farrace

The project focuses on a social extreme of digital natives who have become disinterested with normal face to face communication not out of preoccupation, but out of boredom: browsing one hundred of your friends' pictures for one minute while listening to your favorite song with your iphone six inches away from your face is way more engaging than talking to somebody in person for one minute. The goal is to re-engage this social extreme with the physical environment using natural circulation flows that direct and focus users on intense self-referential experiences. These experiences are curated to emphasize social relationships through the idea of a shared experience.





GRADUATE STUDIOS

CURRENT CONDITIONS AND THE FUTURE ARE DISSECTED, EXTENDED AND TRANSFORMED.

GRADUATE CHAIR INTRODUCTION

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USC graduate students come together with a diverse and distinguished faculty at a crossroads where knowledge of history, current conditions and the future are extended and transformed. This combination of theoretical exploration with technical and performative experimentation results in work that is invariably a step or more beyond current design conventions, ready to engage critically important regional and global challenges.

Five graduate programs are located in the Robert Timme Graduate Research Center. The former roof of Watt Hall is now a light-filled studio whose open plan facilitates interaction across five distinct but highly related disciplines. A graduate student population of 220 is enrolled in four Master Degree Programs in Architecture, Landscape Architecture, Building Science, Heritage Conservation and Sustainability, and a new Ph.D. program. Students immersed in any of the master degree programs can simultaneously obtain a certificate in one of the other programs; this interdisciplinary approach to architecture is essential to addressing critical environmental and social issues in the 21st century. The first professional degree programs in architecture and landscape architecture are designed to meet national accreditation standards by providing a comprehensive set of basic studies. Upon completion of this basic sequence, students are intermixed with post-professional degree students in advanced studios and courses to generate progressive, supportive and sustainable projects suitable to cities around the world, especially those of the Pacific Rim. The post-professional architecture degree program has three studio strands, enabling the student to select a specific concentration. The architectural strand explores innovative building types and incorporates digital fabrication. A theoretical strand utilizes computation for scripting with biometric, algorithmic, and robotic processes utilizing Rhino and Gehry-modified CATIA software. Visiting faculty from ARUP and Buro Happold offices provide support for these computational investigations. Finally, the Urban Lab examines the city as the architect's primary object of research, central to key directions in architectural thinking from Nineteenth Century studies of industrialization and Modernism's large-scale projections to contemporary discussions of informal and explosive urban growth.

LA(P) in LA: the Landscape Architecture Program focuses on complex natural, cultural and social systems of large cities. Landscape design research addresses natural systems restoration, cross-cultural diversity and the transformation of urban infrastructure. The Building Science Program emphasizes the integration of current practices with the development of new technologies, focusing on synergistic and holistic building elements. A regular event is a "facades" conference that demonstrates advanced technical solutions for a sustainable building future. The Heritage Conservation Program, which identifies the Los Angeles urban region as its primary base of study, examines sustainable preservation, which is tested in the restoration of the USC-owned Frank Lloyd Wright Freeman House. In the Ph.D. program, advanced building research includes the testing of performance requirements and analysis of building skins. Research opportunities, which are an integral element in all graduate programs, are especially concentrated in the Building Science and Ph.D. programs, and the two new research centers formed by Dean Ma: COPE, Center of Performative Environments, and CODO, Center of Design. The Graduate Research Scholars program (GRS) is another unique opportunity in the school where graduate students are linked with faculty members in scholarly investigation, offering opportunities for students to engage in ongoing research. Study abroad programs in Asia, Europe and North America expand educational opportunities and global awareness. To this end Dean Ma has established the USC American Academy in China (AAC) where students are immersed in the local culture of Beijing and Shanghai, fostering academic exchanges with the participation of local and international universities.

Recent visitors to the graduate programs include Sir Peter Cook, Rem Koolhaas, Enrique Norten, Thom Mayne, Kazuyou Sejima and Ryue Nishizawa, Ian Richie, Francois Roche, Michael Maltzan, Laurie Olin, Charles Waldheim, Stan Allen, and David DeLong.

John V. Mutlow, FAIA
Chair of Graduate Studies, ACSA Distinguished Professor

ARCHITECTURE SITS AT A GREAT TIME OF CHANGE.

MASTERS PROGRAMS IN ARCHITECTURE

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Architecture sits at a time of great change. Global economies are shifting, energy costs and limitations are of increasing concern, massive population growth challenges global responses, and accelerating changes in technologies have transformed the discipline's boundaries. A new essentialism has emerged, placing the architect's responsibility and multi-disciplinary expertise at increasingly higher levels. The branches on the tree have proliferated and our profession's challenges have never been more numerous.

The Graduate School of Architecture is uniquely positioned to respond to these challenges. Anchored by a multi-disciplinary understanding of architectural thinking, and accompanied by the parallel disciplines of landscape, building science and heritage conservation, the school confronts the complexity of contemporary design with great flexibility and ambition.

Following these changes in the discipline, the School of Architecture's graduate architecture program is likewise at a turning point in its evolution. Under the vision of Dean Qingyun Ma and the directorship of Gail Peter Borden, the Masters Programs in Architecture have become two of the most innovative and experimental programs in the world. Bringing together some of the most renowned and progressive instructors, the programs aim to set new international standards for graduate education. Offering two degree paths, the School now offers newly redesigned professional Master of Architecture [MArch +2] and post-professional Master of Advanced Architecture degrees.

The USC School of Architecture occupies a key position in design pedagogy in the global design community, on the Pacific Rim and in Los Angeles. Los Angeles is at once a complex laboratory of urban life, a network of different cultures, and home to astonishing ethnic diversity. The city is a fascinating and often unruly mixture of rich and poor, privileged and underprivileged, a range of contested territories and ever-evolving ethnic geographies. Blessed by its famously photogenic climate, and yet ever at risk from earthquakes and other natural and manmade disasters, Los Angeles has learned to take environmental and ecological questions seriously. Above all, the School has evolved alongside a highly original and experimental city, one that has consistently challenged preconceptions and served as an incubator for new ideas and practices. The Masters Programs in Architecture are invested in the transformative power of these advanced concepts and strategies in the laboratory of Los Angeles. Locating our design and research in an environment that is unpredictable, problematic and resistant, we actively seek new intersections between culture and construction.

Master of Architecture First Professional degree: The Professional MArch program draws upon the tradition of inspired experimental architectural design in Los Angeles, typified by two of its most distinguished graduates, Pritzker Prizewinning alumni Frank Gehry and Thom Mayne. The first program is a thorough introduction to the essential knowledge and skills required for NAAB accredited registration. The final section builds upon this background in a more experimental and explorative fashion, drawing on the resources and inspiration of Los Angeles itself.

Master of Architecture Post-Professional Degree: This program is dedicated to cutting edge research and experimentation, and seeks to explore in a highly innovative fashion the cultural and technological landscapes of Los Angeles. Through its range of experimental "Labs," the program focuses on inventive fabrication processes and material investigations, hi-tech Californian industries such as film and gaming, and the complex cultural intensity of Los Angeles. The program also draws on innovative research undertaken across the USC campus in Cinema, Interactive Media, Computer Science and Engineering.

Together these programs prepare students to lead the next generation of architectural thinking that will challenge the profession and society to engage design in ways and apply its principles to everything we do.

Gail Peter Borden, AIA
Director of Master of Architecture Programs

ARCH 505A. GRADUATE ARCHITECTURE DESIGN. 122 MILLION MILES: A NEW EXHIBITION GALLERY FOR THE SPACE SHUTTLE ENDEAVOUR

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COORDINATOR: Selwyn Ting. **INSTRUCTORS:** Jeffrey Kim, Doris Sung, Olivier Touraine, Anders Carlson

Southern California is the birthplace of the space shuttle fleet. Orbiter assembly, along with the design, testing, and fabrication of critical components helped drive the region's aerospace economy for nearly 40 years.

On April 12, 2011, NASA announced that the California Science Center in Exposition Park, Los Angeles, would become the permanent home of the Space Shuttle Endeavour. The premise for this first semester graduate studio was a new exhibition gallery for the orbiter as part of a larger Air and Space Hall addition to the current Science Center. The project engaged individuals directly involved with the exhibit to formulate a program and review development. The Endeavour Gallery would comprise roughly 30,000 square feet of exhibition area. The non-shuttle related areas of the remaining Air and Space Hall would amount to an additional 90,000 SF, and would house exhibits related to space and flight, administration, support facilities and visitor amenities.

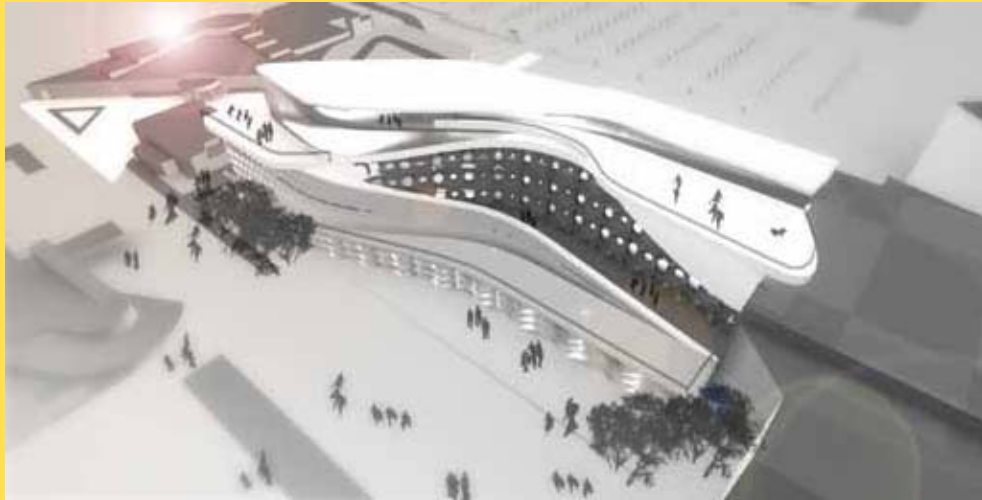
As an object of exhibition, the shuttle represents an amalgamation of all the advanced knowledge and massive infrastructural capabilities needed to realize its missions. While this project did not engage non-orbiter exhibit content specifically, the spatial and visual relationship of the shuttle with these areas was critical. The shuttle is also an object with powerful urban potential: its scale, its historic and symbolic significance and its ability to attract an audience all indicated an ability to externalize its presence while maintaining an envelope with long-term conservation capabilities. The shuttle in its launch configuration is massive, 188 feet tall. The structure containing the shuttle would be the salient element in the USC/Expo Park area. Visible from Downtown Los Angeles and the freeways, it would mark the southern terminus of the culture, arts, and entertainment-rich Figueroa Corridor.



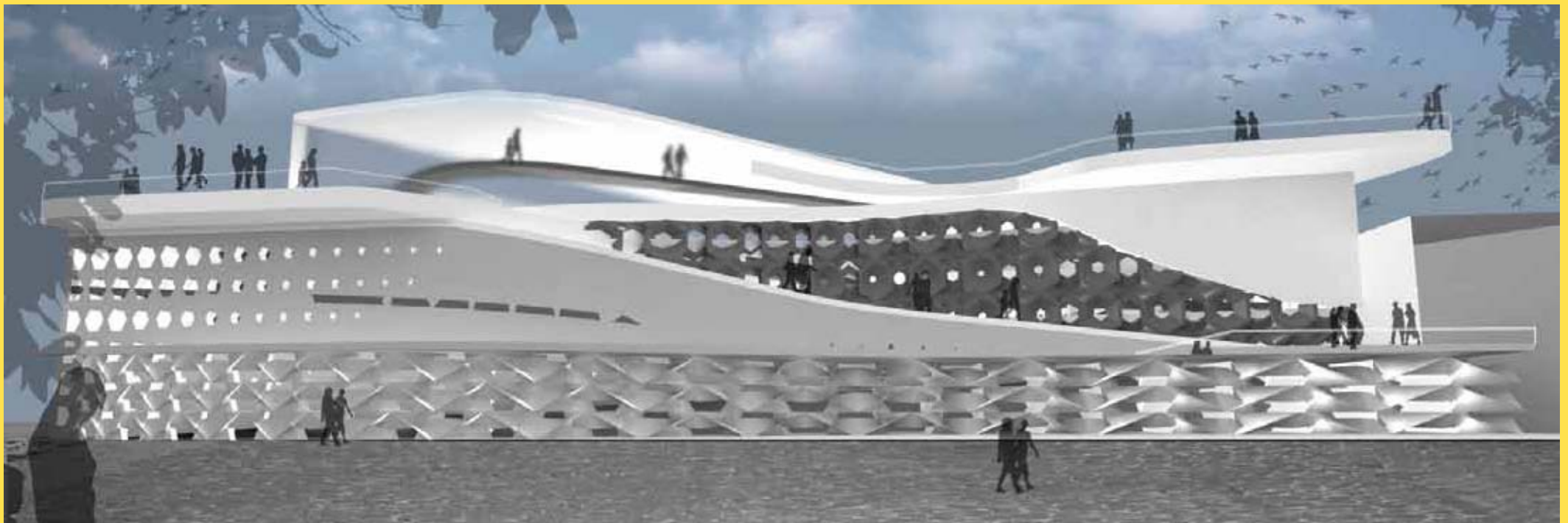
XINYUE MA



TODD SPANGLER



BOTH PAGES: WENJIA XU



ARCH 505B. GRADUATE ARCHITECTURE DESIGN STUDIO. AIR LAB: OFFICE AND LABORATORY SPACE FOR AN HVAC COMPANY

COORDINATOR: Warren Techentin. **INSTRUCTORS:** Steven Ehrlich, Gary Paige, Larry Scarpa

The significance of Los Angeles as a global city emerged at the onset of the last century in part because of its presumed proto-medicinal climate — its skies were reported to be some of the finest in the world and people suffering respiratory difficulties elsewhere were advised by doctors to seek the pure dry air of the Southland. New forms of architecture emerged in the rarefied air of Los Angeles following the utopianism of indoor-outdoor living, which the city's skies seemingly promised. A mere seventy or so years later, the physical palpability of dust and smog generated from the city's embrace of car culture and rapacious development signaled the end of this golden age. Numerous strategies since then have been deployed in an effort to return the air of Los Angeles to its pre-urban state. Stricter legislation, better machines, more comprehensive infrastructures, new technologies of filtration and systems that generate energy from the atmosphere have all contributed.

This studio looked at the future atmosphere of Los Angeles and asked students to not only integrate both natural and mechanical ventilation systems into a semester-long project to design a new laboratory for a HVAC company, but to experiment with, hybridize, and examine a number of integrated building systems into their design. Additionally, in lieu of specifying off-the-shelf systems, students were asked to consider that architectural form and shape can be used to produce atmospheric effects. What is the future role of architecture itself in the design, distribution, filtration, and treatment of the atmosphere? Can new forms, materials, and strategies for design emerge with the renewed interests in creating and conditioning our environments?



MOLLY BELL



TODD SPANGLER

ARCH 605A. GRADUATE ARCHITECTURE DESIGN STUDIO. SKIN DEEP: MEDIATED MATTER AND SURFACE TECTONICS

INSTRUCTOR: Dr. David Jason Gerber

We are at an interesting time in the field of architecture when perhaps there has never been such a plethora of differing architectural strategies fueled by new digital tools. In the past decade these new modes of design have enhanced efficiency within the design studio while breaking open new possibilities of complex form and tunable organizational strategies. Parallel developments in digital manufacturing and materials research continue to offer new modes of how the built world is assembled, manufactured, erected and realized. Of particular interest is the importance of the surface to emerging performance-driven design techniques that challenge architects to adopt new approaches to the parameters that influence space, material, and cultural production.

The studio investigated the Sunset Strip and was tasked with designing a mixed-use hybrid building type, the new headquarters for the XYZ Talent Agency, with amenities including a health spa and gym, street level shops, a night club and a restaurant. The project was expected to engage the city at local, urban and cultural levels and to be developed to a high degree of tectonic and conceptual detail. Taking advantage of Los Angeles and its particular preoccupation with sign and signage, the project addressed the role of media in structures and urban environments, such as billboards and Sunset Strip advertisements, digital and analog. Of particular interest were the programmatic and surfacial or superficial aspects of a hybrid program: office, talent agency headquarters, health club, nightclub, and public space.

Core project provocations engaged complex questions that inter-related the cultural context of media and cultural production: that of the superficial and surfacial, that of the image and brand production intrinsic to the business of Los Angeles, and that of the performative architectural surface; that of enclosure, that of image, that of organization, and that of ever-changing agency.



BRANDON MALMEDAL



MICHAEL WINGFIELD

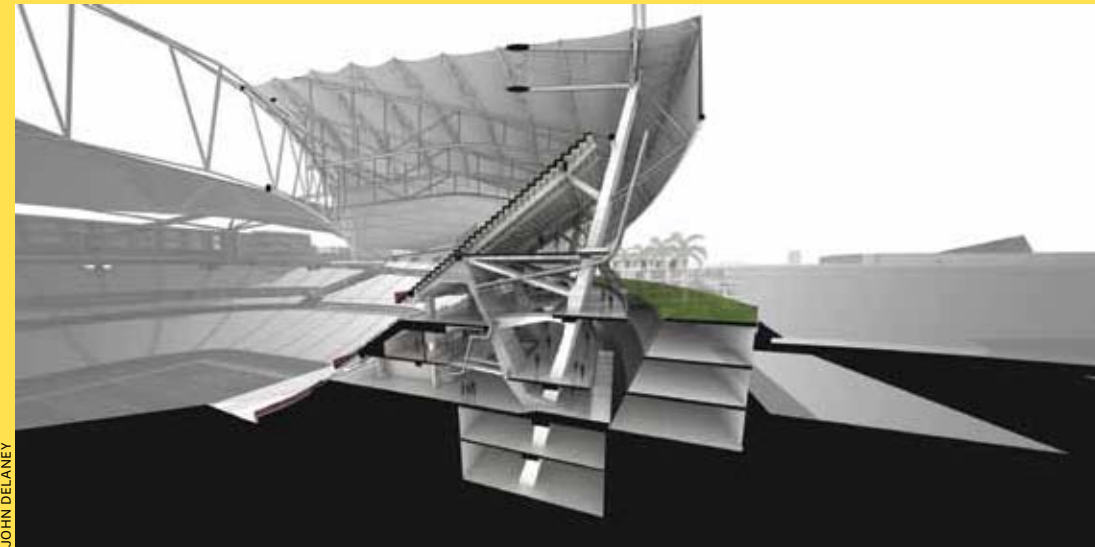
ARCH 605A. GRADUATE ARCHITECTURE DESIGN STUDIO. FIGHT ON TROJAN! REDEVELOPMENT OF AN URBAN SPORTS AND ENTERTAINMENT DISTRICT

129

INSTRUCTORS: Dan Meis and Greg Otto

Fight On Trojan! examined the potential to redevelop Exposition Park into a world-class sports and entertainment district. The current campus has a remarkable place in sporting history. However, the economics of sports and entertainment have radically changed in recent years; consequently, the Los Angeles Memorial Coliseum and Sports Arena facilities are unable to address the present realities of the sports and entertainment business. It is well documented that sports and entertainment districts have had significant positive impact on cities and their redevelopment. Could a new USC sports and entertainment campus, appropriately placed and solidly integrated within the city, provide the transformative engines of community redevelopment?

The studio developed proposals for a comprehensive sports and entertainment district incorporating the existing Coliseum and Sports Arena, including the re-imagining of these two venues to extend their useful life for decades to come. Emphasis was placed on developing real, economically sound proposals with the intent of influencing the future development of this vital component of the USC campus. Directed research of selected sports and entertainment facilities, reflecting the state of the art, informed our understanding. We aimed to develop an appropriate campus sports and entertainment program considered in the context of Los Angeles rich, multi-cultural populace and to devise appropriate logics to address event scheduling and traffic congestion. To give the studio context, we invited a number of industry leaders as studio guests who have direct engagement with the sports and entertainment business and relied heavily upon the Trojan community to craft a vision reflective of such a prestigious institution.



JOHN DELANEY



JAMES DONOVAN



JAMES DONOVAN

ARCH 605B. GRADUATE ARCHITECTURE DESIGN STUDIO. LIFT: A NEW HYBRID INFRASTRUCTURE FOR SOUTH LOS ANGELES

131

INSTRUCTORS: John Friedman and Chris Warren

The neglected area known as South Los Angeles has one of the lowest median incomes of any region in the country. This is due in part to a poor education system, the combination of weak families and strong gang culture, and the general lack of jobs. It is difficult to reconcile this bleak picture with what was once a culturally and industrially vibrant part of the L.A. The strong manufacturing base that existed there has all but disappeared, and mile upon mile of existing building stock is now in disrepair. This situation is exacerbated by South Los Angeles's physical isolation from the rest of the city, in large part a result of its relationship to the 110, 10, and 5 freeways. Hemmed within their borders, South Los Angeles is trapped.

Preventing the redevelopment of South Los Angeles is the local government's refusal to change existing zoning laws (which might allow a defunct factory to be transformed into a school, for instance), or to allow demolition of the low-rise manufacturing warehouses that comprise the neighborhood's dominant building fabric, in the futile hope that some day manufacturing will return to L.A. An alternative development scenario must therefore be generated to both harvest the existing building stock of South Los Angeles and simultaneously engender a transformative new development strategy for the entire region.

LIFT envisioned an innovative, hybrid, and programmed campus infrastructure that would simultaneously engage the existing ground plane and float above the one-story warehouse urban fabric. The studio proposed a concurrent adaptive reuse scenario for the existing building stock that remains at grade. LIFT, therefore, proposed the possibility of architectural and urbanistic strategies that could allow this area of the city to repair itself.



BRANDON MALMEDAL



TOP 3 IMAGES BRANDON MALMEDAL



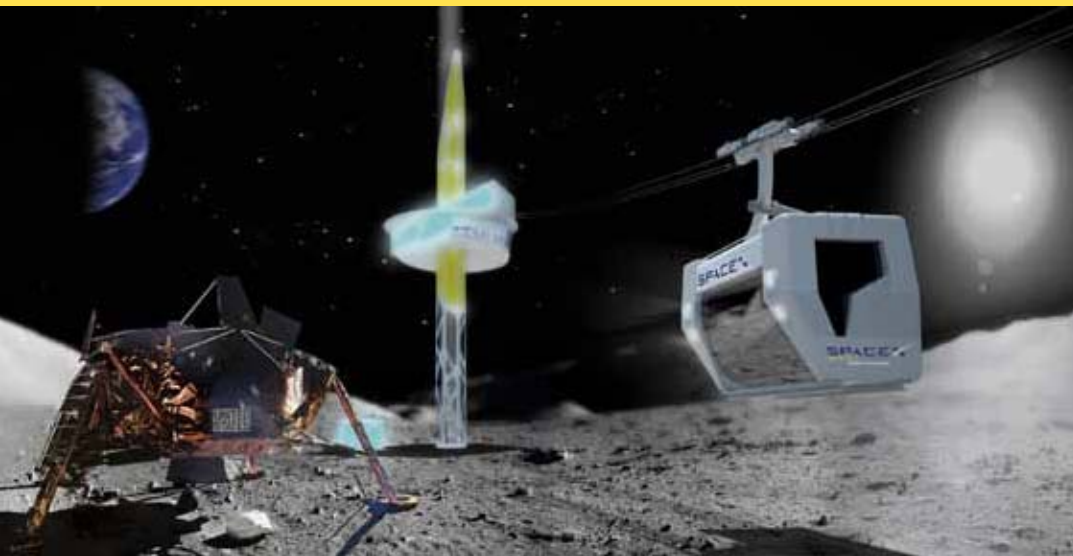
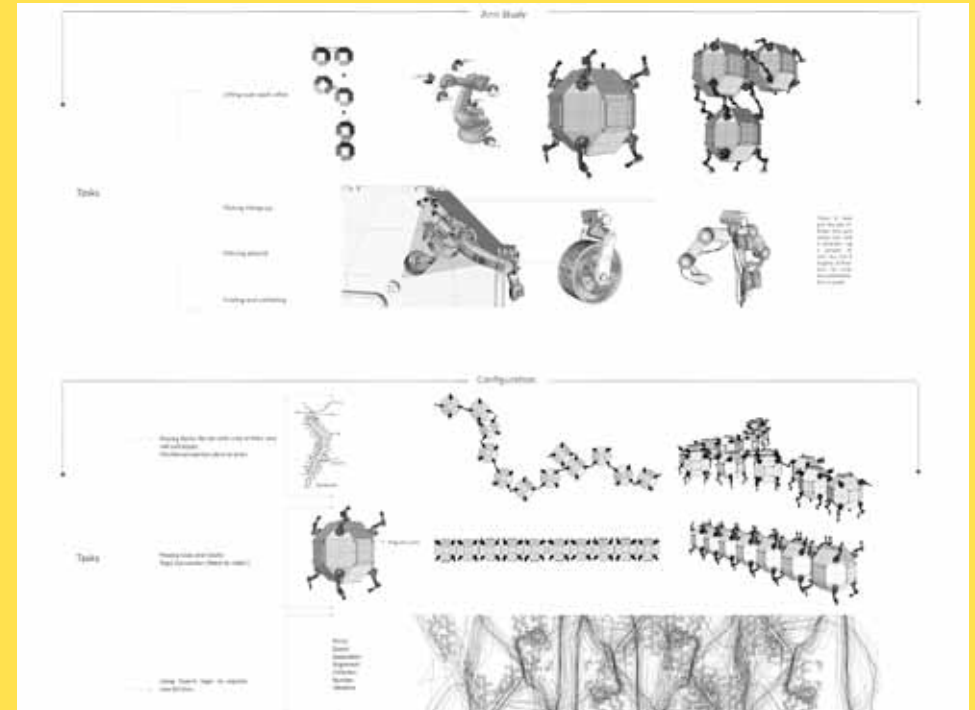
JOHN DELANEY

ARCH 605B. GRADUATE ARCHITECTURE DESIGN STUDIO. MOON STUDIO

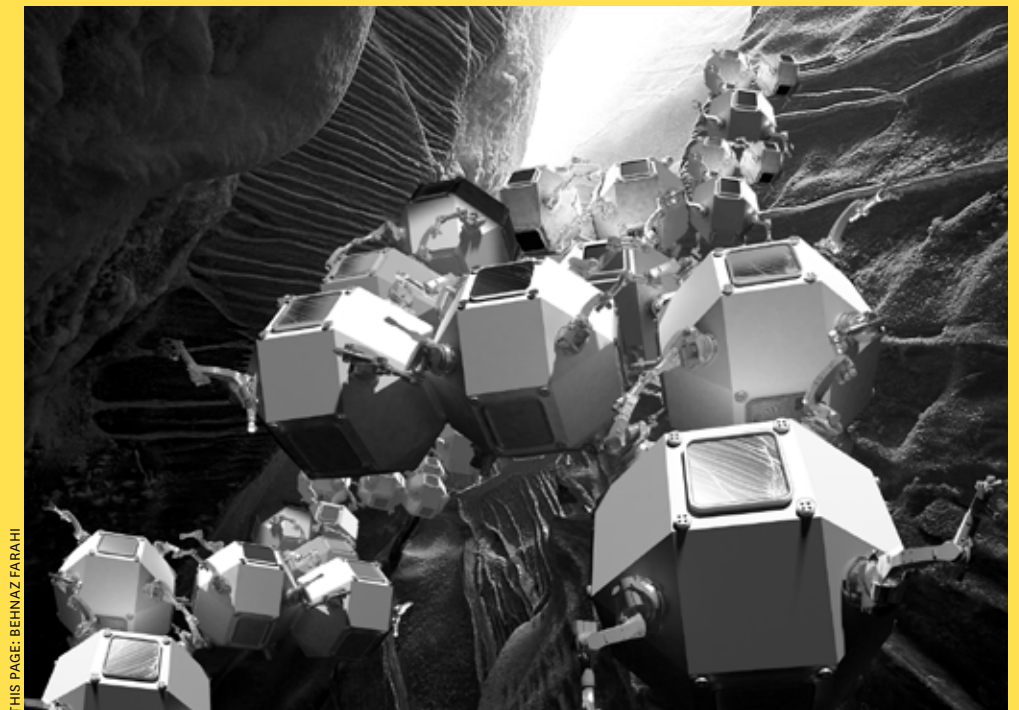
INSTRUCTORS: Neil Leach and Anders Carlson with Madhu Thangavelu and Behrokh Khoshnevis

The Moon occupies a central place in the popular imagination. Within recent cultural and artistic production—from Jules Verne’s novel, *From Earth to the Moon*, through to the song, *Walking on the Moon*, by The Police, to the Moonwalk dance by Michael Jackson, and, more recently, the award-winning movie, *Moon* (dir. Duncan Jones, 2009)—it features strongly as the site of the exotic, mysterious and heterotopic. As a symbol the Moon appears on many cultural icons and national flags—most especially in Islamic countries. In France it inspired the famous croissant (French for “crescent”), and in England the architectural typology, the “crescent.” And yet our perception of the Moon is often inconsistent. The Moon is closely connected with irrationality and insanity—as the term “lunacy” suggests—yet it controls the rhythms of our tides and menstrual cycles in a highly regular way, and is used to calibrate our calendar. Although often understood in affectionate terms as being made of cheese, or anthropomorphized into the “Man in the Moon,” in fact it possesses one of the most hostile environments known to humankind, with violent diurnal temperature fluctuations, extreme radiation and a constant risk of micrometeorite showers. Seen by everyone, but visited by just a handful of human beings, the Moon remains the ultimate paradox.

USC alumnus Neil Armstrong and eleven others have walked on the Moon. But what would it be like to actually live there? Could human beings survive? And if so what lifestyles might they have? And what kind of structures might they live in? This studio aimed to design a research colony on the Moon. On the one hand, there is no atmosphere on the Moon—and therefore no wind or rain—and gravity is only one sixth that of Earth. On the other hand the temperature can vary from +200 C to -200 C in a single day, and radiation is so severe that exposure for more than eight hours in an ordinary spacesuit is likely to be fatal. This was a research studio and the aim was to produce publishable research that might feed into the USC NASA project for building structures on the Moon using robotic technologies.



FRANKIE SHARPE



THIS PAGE: BEHNAZ FARABI

ARCH 605B/590. AMERICAN ACADEMY IN CHINA (ACC): MINIMAL RELAXATION

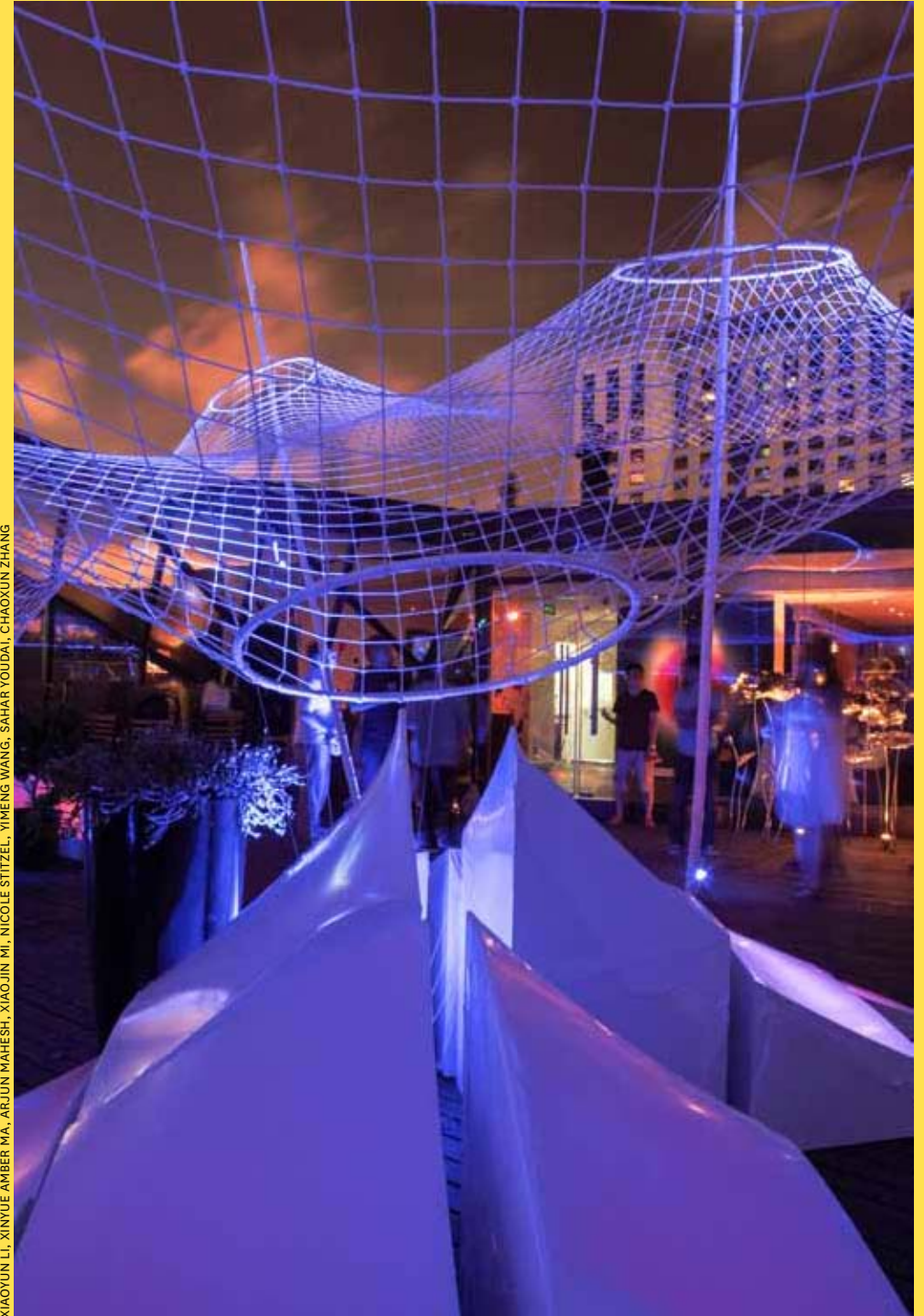
INSTRUCTORS: Neil Leach (USC/AAC Program Director), Wendy Fok (Univ. of Houston/We Designs), Alvin Huang (USC/Synthesis Design + Architecture)

The design of this temporary installation reinterpreted the traditional Chinese garden to activate the roof terrace of the MoCA Shanghai as an undulating and responsive multi-layered landscape. The upper (canopy) layer simultaneously produced gradient spatial conditions and framed viewing portals which curate views of the surrounding hi-rise towers, while the lower (landscape) layer articulated a series of back-lit sculptural ground forms which subdivided the terrace and provided atmospheric effects through responsive color-changing LED lighting. Inspired by the work of Frei Otto, the entire project extended his body of design research into physical and digital form-finding processes for minimal surface structures through dynamic mesh relaxation techniques.

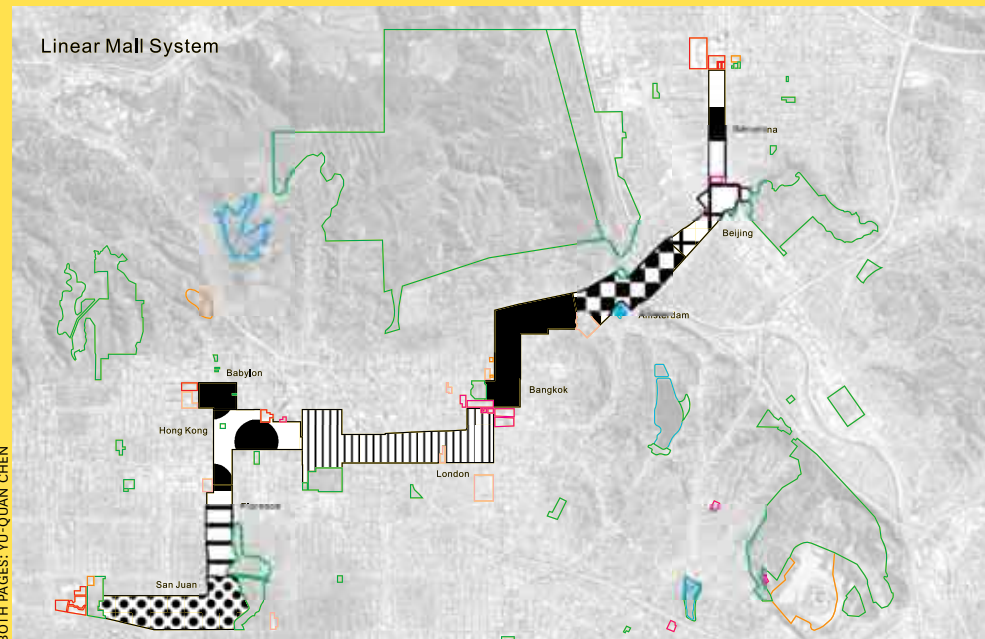
The temporary installation was a commissioned work for the exhibition “MoCA Mock-ups: The Architecture of Spatial Art.” The entire project was designed, fabricated and installed by graduate and undergraduate students from USC’s American Academy of China summer studio.



BOTH PAGES AND PAGES 114-115: ETHAN BARLEY, CHI BHATIA, GABBY GERTEL, TY HARRISON, LUYA HE, JUSTIN KANG, MICHELLE KRAINTZ, XIAOYUN LI, XINYUE AMBER MA, ARJUN MAHESH, XIAOJIN MI, NICOLE STITZEL, YIMENG WANG, SAHAR YODAI, CHAOXUN ZHANG

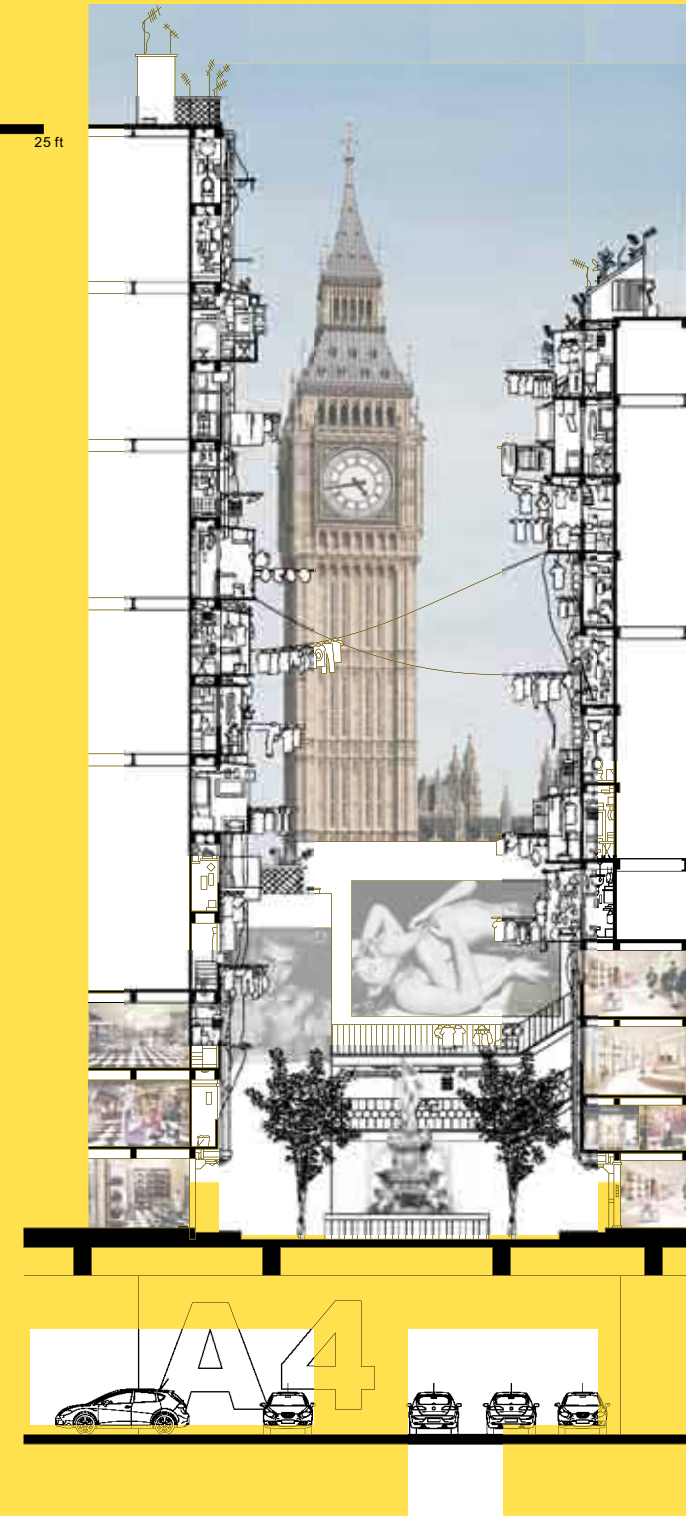


This project aims to develop a novel perspective for creating an urban environment, one that views mega-shopping centers as new types of urban spaces. In Southern California, outdoor shopping centers flourish due to three factors: the lack of decent public space, a nostalgia for life in American towns and 300+ sunny days each year. These so-called “lifestyle centers” include complex, diverse and hybrid programs and are quickly becoming self-sufficient micro cities. In addition, these mega-shopping centers have simulated and mimicked street facades, turning the urban environment outside-in and inside-out. In other words, this kind of simulation design has turned shopping center spaces into new “downtowns” that serve pleasing, human scaled, walkable, entertaining and open-air public spaces. The project examined how one of these artificial and entertaining spaces was made by documenting the blended experiences in shopping centers in terms of color, material, lighting, landscape, theming, sound design, building elevation, pavement, scenography, street furniture and scheduled events. Among these criteria, the project focused most closely on sound and theme research. Finally, the project viewed Los Angeles as a single site and proposed a linear mall system which not only integrates with local public facilities and attractions such as museums, schools, public libraries, public pools and public transportation, but also connects existing shopping centers into one continuous public environment. The project proposes that segments of this linear system could be separately themed; in this case they are branded with the most popular worldwide urban tourist destinations.



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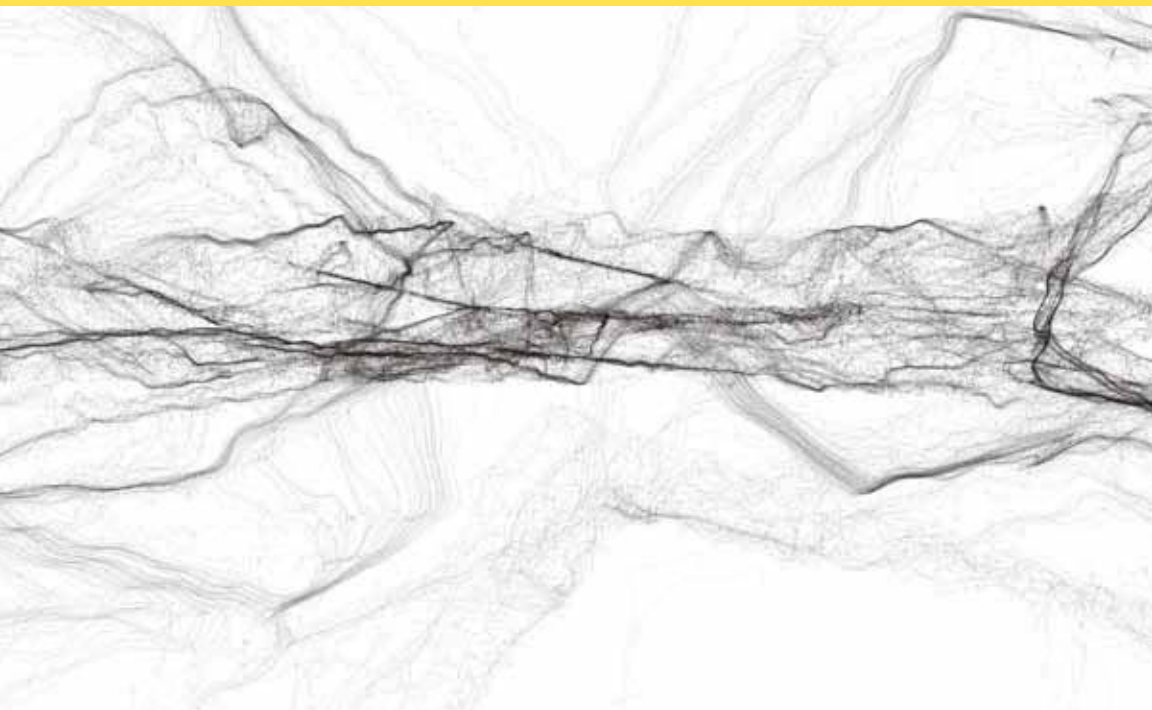


ADVISOR: Neil Leach. **STUDENT:** Huaiming Liao

The Kiruna mine in northern Sweden is the second largest underground mine in the world. Long-term ore extraction from the mine has been making the ground under the city of Kiruna collapse. This project, inspired by a wound healing network, sets up a self-evaluating system for the city.

The system consists of three swarm- and material-based subsystems, a resource seeker, a network builder and an urban remodeler, all of which respond to each other as they are working. Since the city is located above the Arctic Circle, ice and snow are deployed as building materials for the project's further development. The external environment is a stimulation factor that defines the trajectories and morphologies of every single control agent.

In this project, a self-generating surface-structure is explored as a structural prototype. Agents are set along the boundary of a closed space to evaluate the volume. They are seeking the most effective way to rebuild connections across the area. Different phases of the inflatable fiber-structure are simulated by different parameters. To create hierarchies, the inflated structures then would be deeply subdivided into sub-volumes and serve as attractive parameters for new agents.



BOTH PAGES: HUAIMING LIAO



THE LOS ANGELES LABORATORY IS A MAJOR ASSET FOR EXAMINING LANDSCAPE PLACES

MASTER OF LANDSCAPE ARCHITECTURE

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The Landscape Architecture Program at USC is a major West Coast center for urban landscape studies, one whose design and research attracts national and international attention. The National Landscape Architectural Accreditation Board, approving the School's accreditation in 2011 for a maximum term of six years, stated:

Through careful planning and a compelling vision, the School of Architecture has made an impressive start initiating a graduate program in landscape architecture with enormous potential to provide national and international academic research and scholarship, and practice leadership.

USC is... located in South Central Los Angeles, in the heart of the West Coast's largest urban region and one of the country's most dynamic cities. [This location] provides the program with unique opportunities: to work in a wide variety of urban and semi-urban locations, to explore different expressions of urban nature, to repair and restore the urban region's fabric, and to work with diverse communities. USC's location on the Pacific Rim also provides the program with exciting global possibilities, evinced by the fact that many of the two-year students entering the program come from China. The program's innovative mission recognizes these interrelated opportunities and possesses the promise of becoming a unique and distinctive program tailored to the compelling issues and needs of the region and the rapidly developing Asian Pacific Rim.

The 2011-2012 academic year saw our first official participation in the ASLA Annual Meeting in San Diego and our first-ever ASLA Student Awards Jury where we selected three students for Honor Awards and one student for a Merit Award. Other notable achievements included our first-ever CLASS Scholarship awards, as well as our first ever Olmsted Scholar nominee and finalist.

Three critical aspects of research and teaching characterize the program and focus its further development:

DESIGN RESEARCH: The Los Angeles laboratory is a major asset for examining landscape places and projects, issues of the contemporary city, and for understanding challenges and opportunities related to natural processes in a cultural landscape. USC continues to support the critical inquiry and creative energy that characterize Southern California culture. While the region has unequaled demographic diversity and cultural richness, it also faces challenges from projections of significant population growth amid water shortages, improved but still hazardous air pollution, natural systems in need of restoration, and an aging and incomplete infrastructure. Los Angeles is a puzzling complex of urban centers that are not easily characterized and related, and landscape design must weave together evocative and healthful urban futures.

URBAN NATURE: An essential focus of the 21st century is global urbanity, including the relation of natural systems to built infrastructure, the necessity for using and inventing resilient technologies, transforming the skills for design exploration and communication in a variety of places and cultures, and a commitment to participatory processes that embrace cultural complexity. Urban society has powerful economic and technological tools whose uses promise both amazing as well as disturbing potentialities. The harmonious relation of cities and nature produced by an earlier age of modest technologies inspires research for using new and powerful methods in the interest of healthful and sustainable urban nature.

ADVOCATING LANDSCAPE STUDIES: Program initiatives continue to create a vibrant center at USC for landscape studies, including a wide scope of curricular interactions, a continuing attraction of distinguished faculty and visitors, and greater visibility of landscape studies as a basis for proper and sustainable urban development. There are only a handful of graduate study programs on the West Coast, and not many more along the entire Pacific Rim. Landscape is the home of all life; it is the fundamental infrastructure and essential spatial tissue of cities, and its study is in full force at USC.

Rachel Berney, Ph.D.
Interim Director, Master of Landscape Architecture Program 2011-12

ARCH 541A. MLARCH GRADUATE DESIGN STUDIO. HUH?!

FACULTY: Douglas Campbell and Regula Campbell

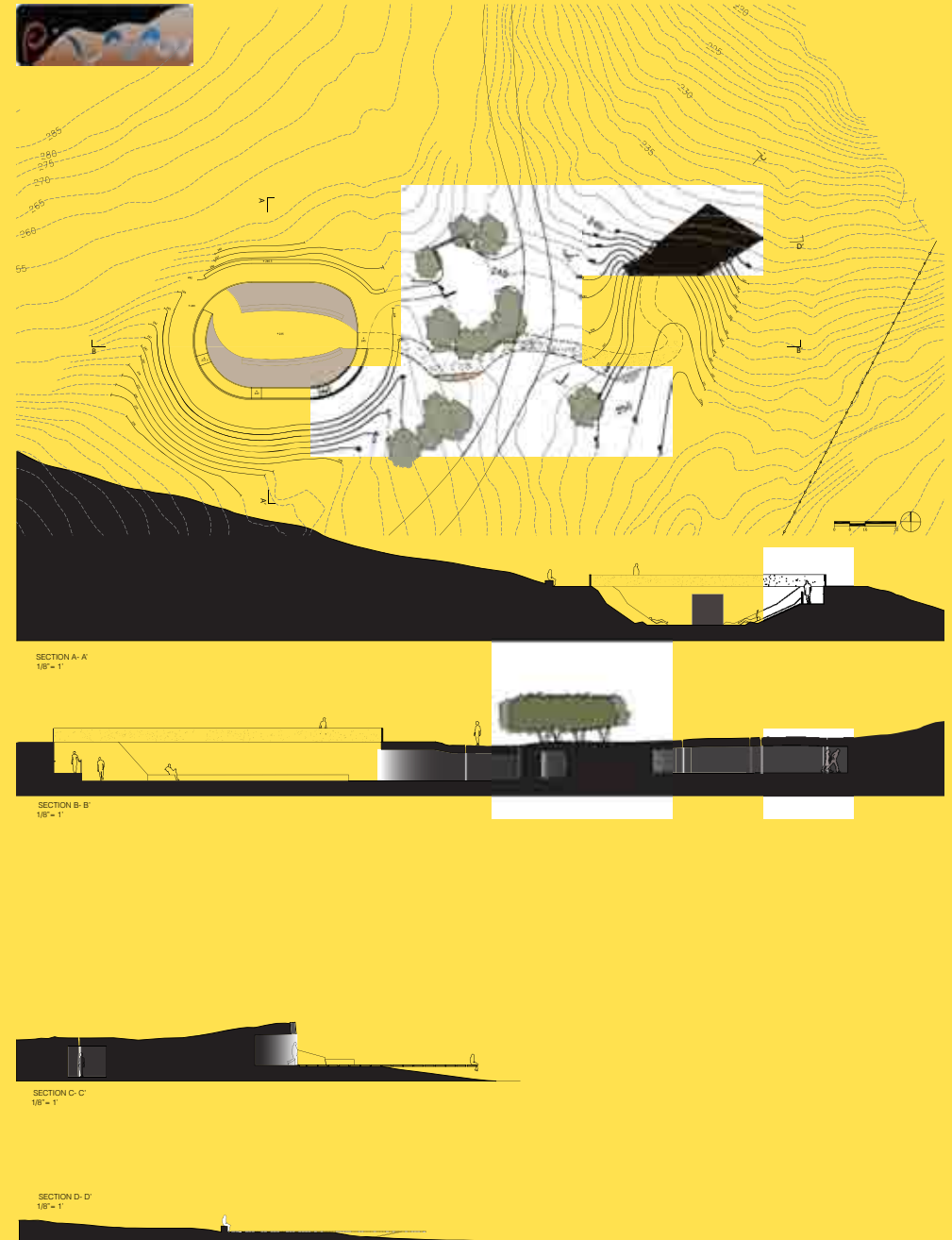
541a is the first core studio of the MLA +3 program. Students come from varying BA and BS programs and majors other than landscape architecture and have had diverse life experiences. Over this semester they are introduced to the discipline of landscape architecture and the use of the design process as a means to address complex projects with a wide range of environmental, cultural and functional goals, issues and constraints. At the same time, students develop the ability to embody abstract concepts within physical design through the formal place making tools, processes and elements of landscape architecture.

The studio was organized around two projects: the Adrianna Project for the first half and the campus of the Wrigley Institute of Environmental Design on Santa Catalina Island for the second. The Adrianna Project required the successful resolution of several goals on a USC campus site: creation of a welcoming pedestrian entry to the campus, renovation of an existing campus plaza, safety improvements to a high pedestrian and vehicular intersection of two major streets, incorporation of sustainable elements and processes, and the design of an appropriate memorial for a slain USC student. Students began with the development of a careful and thorough site observation and analysis, program analysis and studies of present patterns of use. They researched design precedents and developed their conceptual designs in a reiterative process finishing their final design by the midterm.

The Wrigley Project again began with site and patterns of use observations and analysis and program analysis, this time in teams of 3-4 students. Over the next four weeks, these teams worked together to develop a campus master plan that conceptually expressed and physically demonstrated environmental responsibility and stewardship. Students then chose an individual project from their master plan to design within the final four weeks.



BOTH PAGES: NICOLLE IVES



FACULTY: Alex Robinson

Owens Lake is located in the Owens Valley, 200 miles north of Los Angeles. The Valley's water, fed primarily by the eastern Sierra Mountains watershed, is captured by the Los Angeles Department and Water and Power (DWP) aqueduct and provides about 40% of Los Angeles's water. The diversion of this water has had a profound impact on the culture and environment of the Valley, effectively emptying Owens Lake by 1930.

The subsequent exposure of lakebed resulted in seasonal volatile alkaline blooms whose particulates are collected in strong winds and can travel for miles in thick fog-like plumes. This airborne particulate matter ranks Owens Lake as the biggest single-source PM10 particulate matter emitter in the country. Eventually the DWP agreed to take measures that would bring the PM10 concentrations down to acceptable levels. The DWP has since been trying to comply with this agreement by implementing a variety of pre-approved dust control methods on the lake.

The current dust control operations on-site were rapidly deployed by the DWP to reach dust control mitigation requirements, but now that these benchmarks have been reached, the agency will modify operations according to a number of factors and opportunities. These include water conservation and solar power, but the DWP is additionally obligated to consider improvements that fall under the Public Trust Doctrine. According to this doctrine, the state has an obligation to protect the recreational, ecological, aesthetic, scientific, and open space values of certain lands under its control. While the ecological and scientific aspects of the doctrine are well represented by a variety of experts involved with the lake, the remaining elements – recreational, aesthetic, and open space – have received relatively little attention. The purpose of this studio was to develop a method and set of approaches that improve these aspects while maintaining the critical infrastructural performances and efficiencies.



SERENA KERRIGAN

CAPSTONE YEAR WINTER



ALICE YANG

1/8"=1'

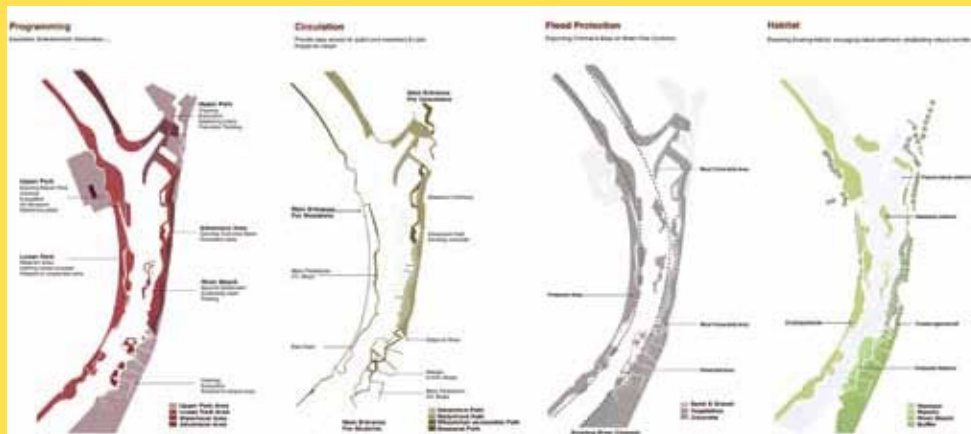
FACULTY: Alex Robinson

The purpose of the studio is to develop and practice a methodology that can advance multi-performative design for the Los Angeles River; this methodology is calibrated to the river's critical flood protection function and other infrastructural considerations. Central to this approach is modeling the river's hydraulic conditions.

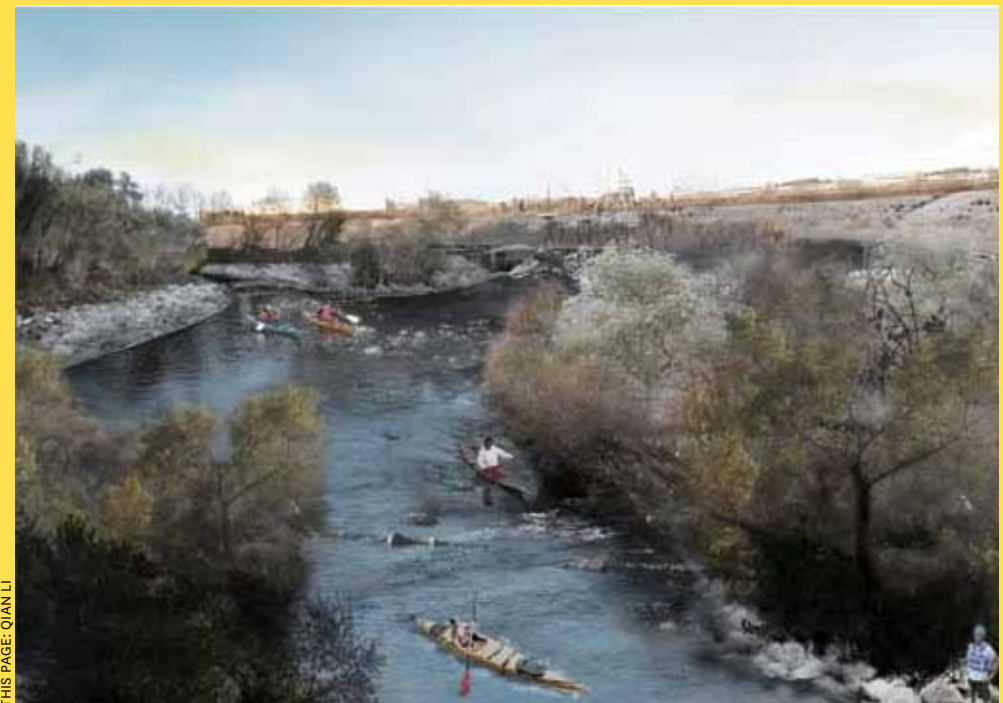
With high design flows and development hemming its sides, restoring the river in a traditional sense is impossible. Instead, the studio assumed that any improvement would hybridize restoration with techniques of urban channel protection. In addition, given the urban condition and incredible potential benefits that the river could provide as open space, the river represents a synthetic and monumental design challenge that landscape architects aspire to solve.

Even so, landscape architectural design within the channel is often stymied by a poor understanding of the flow conditions that ultimately dictate what is reasonable and possible while maintaining flood protection. Without a way to represent these conditions, designers often produce unrealistic proposals—catastrophic in terms of flood protection—or fail to fully utilize the opportunities that exist. Constraints, when well understood, can be sources of creativity for landscape designers, who can excel in highly constrained and unusual conditions.

The site's physical hydraulic model, therefore, plays an important role in representing the site conditions to which any design for the river must respond. However, it also functions in many other ways. As a dynamic exhibit it functions as an important learning tool for understanding hydrology and how it relates to design. In terms of methodology, the model is a multi-disciplinary common ground that bridges between engineering and design.



CHUAN DING



THIS PAGE: QIAN LI

Los Angeles provides a unique laboratory in which to learn and challenge conservation issues. As a relatively young and diverse global city, it is the ideal place to explore a relatively young and diverse global discipline. Our wealth of recent past resources raises a new set of research challenges and the city's richly diverse communities woven throughout the tapestry of the built environment push us to acknowledge the many layers of history and meaning revealed in the city. It is also a place forever seeking the new, providing opportunities to protect the best of the past while embracing the landmarks of the future.

Imbedded in the School of Architecture at USC, heritage conservation students are instantly part of a multidisciplinary environment, linking landscape architecture, building science, architecture, and conservation. As such, the program curriculum is designed to expose students to a broad range of topics including materials conservation, policy and planning, conservation theory, global conservation efforts, architectural and landscape history, best-practices in resource documentation and evaluation, sustainability and historic site management. Students are also encouraged to take advantage of the many academic resources in the broader university, including taking courses in real estate, regional history, urban planning, and spatial sciences. Program faculty are leaders in the field, a blend of academics and practitioners who grapple with conservation in real time, seeking creative solutions that balance the integrity of the past with a sustainable future. Through this broad exposure, students begin to formulate their professional path within the discipline.

The creation of a graduate thesis enables students to stretch themselves in the direction of their choice; the abstracts that follow reflect this diversity. Topics are chosen based on the interests of the student and vary from architectural and landscape history to policy analysis, from materials-based inquiry to industrial archaeology, and beyond. What follows is really just the tip of the iceberg - a complete full-text version of the featured theses, as well as others from our program, are available online.

Trudi Sandmeier
Director, Master of Heritage Conservation

**FOREVER
SEEKING THE
NEW...
TO PROTECT
THE BEST OF
THE PAST...
EMBRACING
THE FUTURE.**

**ARCH 691. HISTORIC PRESERVATION THESIS PREPARATION. ESTE LUGAR SI IMPORTA:
HERITAGE CONSERVATION IN UNINCORPORATED EAST LOS ANGELES**

STUDENT: Laura A. Dominguez

One of the greatest challenges facing traditional historic preservation in the United States today is the task of integrating a more inclusive definition of cultural heritage in underrepresented communities into the broader movement. As this thesis will demonstrate, the tangible and intangible heritage of Unincorporated East Los Angeles and the burgeoning grassroots movement to safeguard it provide the field with powerful insights into the needs of twenty-first century ethnic communities.

Characterized by a dynamic Chicano population and a long history of social activism, East Los Angeles currently lacks a formal preservation framework, leaving decisions about significance and interpretation in the hands of the community.

Community-based heritage conservation and its evolving practices raise a number of questions about cultural memory, authenticity, and social authority, critically reshaping the relationship between place and identity. These changes are particularly visible in East Los Angeles, where heritage conservation belongs to a broader social and political movement over local agency within Los Angeles County.

How do the unique cultural resources found in East Los Angeles produce a new method of recognizing, understanding and conserving local heritage, and how do residents and activists interpret the significance of those resources? How have scholars depicted the relationship between place and identity in East Los Angeles, and how does an emphasis on the built environment and its associated intangible heritage redefine that relationship? Finally, how does community-based heritage conservation definitively alter the scope of traditional preservation, and how can the field adapt to these changes?



ARCH 691. HISTORIC PRESERVATION THESIS PREPARATION. LIFE AND WORK IN THE RYAN DISTRICT, DEATH VALLEY, CALIFORNIA, 1914 - 1930: A HISTORIC CONTEXT FOR A BORAX MINING COMMUNITY

STUDENT: Mary Ringhoff

The Ryan district is an early 20th century cultural landscape associated with a historic borax mining operation just outside Death Valley National Park. Its heart, the town of Ryan, was built by the Pacific Coast Borax Company (PCB) in support of its extraction work at six nearby mines; other industrial support systems included the Death Valley Railroad (DVRR) and the Baby Gauge Railroad. Ryan housed PCB workers from 1914 to 1928, at which point the operation was abandoned in favor of richer deposits elsewhere. The town experienced a brief second life as a hotel and recreation destination as the economy of the Death Valley region shifted from mining to tourism. Today, Ryan and its numerous intact buildings are part of a larger cultural landscape that includes abandoned mines and their associated work camps, railroad lines, railroad construction camps, and abundant archaeological deposits.

Ryan shares characteristics with many other industrial mining operations of the western United States: the town was established and controlled by a corporate entity that focused on mineral extraction; in addition, it was situated in an isolated location, and was fairly short-lived. What makes the Ryan district unusual is its association with the borax industry rather than precious metal mining, its location in one of the world's most forbidding environments, and its second life as a tourist destination. What makes it extraordinary is its state of preservation, both architectural and archaeological. This thesis presents a historic context for the Ryan district for future use in preservation planning.



BOTH PAGES: MARY RINGHOFF



**ARCH 691. HISTORIC PRESERVATION THESIS PREPARATION. QUANTITY AND QUALITY:
ARCHITECTS WORKING FOR DEVELOPERS IN SOUTHERN CALIFORNIA, 1960-1973**

STUDENT: Sian Winship

Little is known about a generation of architects who worked with the developers and merchant builders to create large numbers of single-family residences and multi-family, multi-story residential structures between 1960 and 1973. This thesis looks at three prolific modern architects who designed extensively for developers, Edward H. Fickett, Richard L. Dorman, and William Krisel.

Using primary sources, this study provides a historic context for residential development in two periods in Southern California, 1945-1959 and 1960-1973. It also closely examines selected projects for each of the three architects profiled.

This analysis furnishes a better understanding of how each architect enhanced the quality of architecture in developer housing. Fickett emerges as a pioneer of the modified modern through decoupling the post-and-beam construction method from the post-and-beam aesthetic. Dorman finds inspiration for his tract home designs in his commercial and industrial developer projects rather than his custom home projects. Krisel elevates tract-home development by applying commercial and retail principles and avant-garde design to enhance the architectural cadence of tract housing developments. Subsequently, Krisel's experience informs and elevates the state of multi-story, multi-family residential projects.

The findings demonstrate that tract houses are not dumbed-down versions of custom house designs; they are likely influenced by commercial and retail architecture. These residences are "products" and the architects who worked for developers became familiar with all aspects of the developer's business. These findings offer new considerations for preservation of speculative houses—as hybrids of investment product, residence, roadside attraction, and advertisement.



THIS PAGE: SIAN WINSHIP

SYNERGISTIC AND HOLISTIC ARCHITECTURAL DESIGN THAT SATISFIES INFORMED PERFORMATIVE GOALS

MASTER OF BUILDING SCIENCE

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Building science and technology studies at USC recognize that exemplary architecture requires an understanding of, and innovative response to, natural forces. The integration of the study of building sciences with an understanding of current practice and development of new tools and technologies creates synergistic and holistic architectural design that satisfies informed performative goals, requiring good judgment and knowledge for the creative use of architectural technology.

The Master of Building Science program is intended for students with a degree in architecture, engineering or related areas. The typical program length is two years. Students with a professional five-year architecture degree may qualify for advanced standing. Studies are centered on each student's thesis and are supported by research seminars and electives from architecture, engineering and other related fields. Students are individually guided through their study and thesis by three faculty advisors. The faculty has academic, research and professional practice experience in architecture, civil and structural engineering, environmental control system design, system integration and computer applications. Many papers based on thesis work have been co-authored by students and faculty and have been published and/or presented at professional conferences.

DESIGN AND RESEARCH DIRECTIONS

The need exists for a new generation of individuals whose education has prepared them to bring appropriate technology to the design of a sustainable environment including the building and re-building of humane and supportive cities. The complex interplay of environmental, structural, and material issues with human needs and global problems is a rich field for study. The environment and evolving technologies impact buildings and the buildings we design have a huge impact on those issues in return. 21st century issues affecting building environments include changing energy needs and sources, the growth of urban density, and solutions for adapting our aging inefficient buildings. Every decision we make has consequences. In the USC MBS program we study these decisions and consequences in order to design a better future.

WITHIN THIS CONTEXT, THE PROGRAM EMPHASIZES:

- *The integration of planning, design and technology to form a coherent and interdependent force for the appropriate construction of urban places.
- *Recognition of the ecological importance of energy-conscious design and construction as well as the high social value of places in which natural forces and systems are being utilized rather than suppressed.
- *The development of research and design methods suited to the complexity of building in urban settings and effective in the use of extensive information.

AREAS OF STUDY:

- Processes that explore form in response to natural forces: sun, wind, water, seismic and thermal.
- Building envelope studies
- Lighting and daylight design
- Glare and Solar Convergence
- Passive and active solar design for heating and cooling
- Energy analysis simulation and measurement
- Zero net energy buildings
- Sustainability in the environment
- Acoustic isolation and performance
- Systems integration: structure, mechanical, electrical, building envelope
- Materials and methods of construction
- Theory of architectural technology
- Building information modeling
- Computer applications in architecture
- Computer tools: animation simulation, structural and environmental analysis, simulations of lost architecture, design information systems, smart building technology, stereoscopic visualization, and related topics
- Static and dynamic simulation models for investigation of structures
- Seismic sustainability
- Structural systems, materials and optimization

Douglas Noble, PhD, FAIA
Director, Master of Building Science

STUDENTS OF EXCEPTIONAL INTELLIGENCE, CHARACTER AND COMMITMENT

PH.D IN ARCHITECTURE

The Ph.D. program at USC admits students of exceptional intelligence, character and commitment. Graduates will add to the knowledge base of the field of architecture while they gain knowledge and experience about the teaching, research and service aspects of academic careers. Graduates will be prepared for leadership positions in academic, research and practice settings.

The USC Doctor of Philosophy (Ph.D.) in Architecture addresses the rapidly growing global demand for leaders in environmental design research. Our highly qualified faculty guides students through a rigorous and highly demanding program of advanced study and original research. The program maintains a commitment to the highest standards of academic achievement. Admitted students are exceptionally well prepared to structure and communicate ideas and to make scholarly contributions to the built environment discipline.

Re-established in 2008, the Ph.D. program is an umbrella degree designed to grow into additional areas of specialization as the graduate program positions appropriate coursework, faculty, and research support. As we originate the program, we will build in the strengths of the previous Doctor of Building Science XE degree program that was established in the School of Architecture in the mid 1960s.

The program is structured around intensive seminars and an individualized program of study. Students will gain a fundamental knowledge base in building science and technology including advanced analytical and research methods. Students are expected to master a defined field of scholarship that constitutes a foundation for critical inquiry required by research. Graduate Certificate XE Graduate Certificate programs offer students the opportunity to establish additional areas of expertise. After completion of a core set of required and elective coursework, the program of study culminates in the development of a dissertation of original scholarly research guided by a faculty team. The Doctor of Philosophy is awarded to students who complete a substantial dissertation of original research that adds new knowledge to the field. The Ph.D. program seeks to address serious challenges and global implications. Admitted doctoral students will join the faculty and continuing students as we investigate topics.

Examples of current research interests by the USC Architecture faculty include:

- Sustainability
- Digital Media
- Solar Access
- Building Skins
- Seismic Design
- Fabric Structures
- Digital Fabrication
- Performative Architecture
- Materials and Assemblies
- Lighting / Daylighting / Glare
- Building Information Modeling
- Historic Structures Technology
- Cable-Suspended Glass Skins
- Architectural Science Education
- Integrated Architectural Technology

The Ph.D. Program encourages an attitude toward study that USC President Steven B. Sample describes as breadth with depth. Students are expected to have a broad education, skills, and experience. A community of scholars from diverse locations and cultures provide a rich setting for learning. We actively seek candidates from around the world, and we encourage our students to participate in our graduate overseas programs.

Ph.D. candidates are colleagues of the faculty and are expected to contribute to and foster the intellectual community of the USC School of Architecture. Candidates will be prepared to function in research, academic and professional environments as university faculty, consultants, professionals, and scientific researchers. Faculty and students are held to the highest standards of academic excellence and environmental ethics that help create the quality of experience expected at one of the world's finest universities.

Doug Noble, FAIA, Ph.D.
Chair, Ph.D. Program